



## Your Take: Open source

Sabre Holdings CTO Robert Wiseman (left) says open source software helps him meet uptime requirements on a network where "it's always peak hour somewhere." **Page 20.** CIO Randall Spratt explains how open source helps McKesson wring costs out of the IT solutions it delivers to healthcare customers. **Page 25.**

# NETWORKWORLD

Maximize your return on IT ■ [www.networkworld.com](http://www.networkworld.com)

November 10, 2008 ■ Volume 25, Number 44

## Early look at the latest Microsoft Windows Server

Microsoft this week will distribute a pre-beta of Windows Server 2008 R2 and highlight the software's virtualization capabilities, integration with Windows 7 and other features. **Page 8.**

## Visa charges into virtualization

The credit card giant is looking to save money as it spreads virtualization across its data centers. **Page 12.**

## Juniper deflection

Juniper's EX 8208 data center switch is shipping late, but the company looks to deflect bad news. **Page 14.**

## Tech challenges for Obama

Columnist Scott Bradner shares his technology wish list for the incoming Obama administration. **Page 16.**

## Hard times prompting IT shops to renegotiate

BY JON BRODKIN

Saving money is paramount for CIOs in today's economy, and renegotiating vendor contracts may be one of the best ways to chop expenses.

Convincing vendors to lower prices when you have a signed contract is a difficult process, yet six out of 10 CIOs are trying just that, according to a survey of 50 CIOs by the CIO Executive Board.

It may seem hard to believe a vendor would give up revenue willingly. "They can be fairly contentious discussions," AMR Research analyst David Brown says.

But it is a competitive market. "The leverage I have is that at some point, that contract is going to come to an end, and I'm going to be more likely to switch vendors when someone is not willing to be flexible," says Thomas Catalini, a member of the Society for Information Management (SIM) and vice president of technology at insurance brokerage William Gallagher Associates in Boston. The brokerage is trying to renegotiate about a dozen contracts with IT vendors including

**See Contracts, page 44**

**COOL YULE TOOLS**  
**GIFT 2008 GUIDE**

**rock and roll**  
*Fantasy*

**Ready to rock!**  
Taking our cue from two of the hottest video games (Rock Band 2 and Guitar Hero World Tour), we chose holiday gifts that rocked the house. Whether a hot new notebook or a wicked cool iPod speaker system, these gifts all have one thing in common — they rocked during our tryouts. **Page 34**

So sit back, relax and enjoy the music as you peruse this year's guide. For an encore, head online to [www.hwdocfinder.com/7433](http://www.hwdocfinder.com/7433) to see our holiday gift suggestions that all will make you feel like a rock star.

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# NETWORKWORLD

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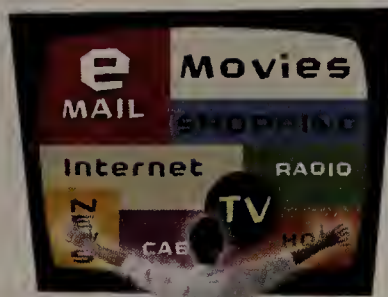
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■ **Juniper's EX 8208 data center switch is shipping late. Page 14.**



## GOODBADUGLY

### Broadband bonanza

Broadband subscribers all over the world are getting more for their money. The costs of cable, fiber and DSL subscriptions are all dropping, and at the same time speeds are increasing, according to market research company Point Topic. DSL has seen the largest average worldwide price drop, 20% during the first three quarters of 2008. Broadband users paid \$66.75 on average for a subscription in the first quarter and \$53.32 during the third.

### Say it ain't so: sinking iPhone demand?

Apple probably will cut production of its hot-selling iPhone 3G handset as much as 40% in this quarter, an analyst warned, saying the expected change signals weaker demand for consumer electronics. The prediction drew criticism from Apple observers, however, who said the situation isn't that grim.

### Nokia, Egenera announce layoffs

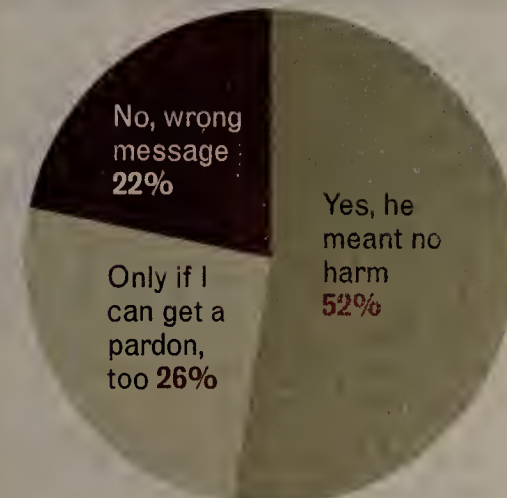
To read the hype, you'd think all was hunky-dory in the worlds of wireless and virtualization, but that apparently is not the case. Nokia is cutting 600 jobs, mainly in sales and marketing, but also in long-term R&D. Egenera, meanwhile, is cutting 87 people, according to a *Boston Globe* story, and shifting its sales focus to include more reliance on hardware vendors to sell its software.

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## POLL

A snapshot of how [networkworld.com](http://networkworld.com) visitors voted on a key networking issue last week:

**Should the Morris worm writer be pardoned?**



Total voters for this poll: 417

Vote and discuss: [www.nwdocfinder.com/7440](http://www.nwdocfinder.com/7440)



### Ready to rock!

Taking our cue from two of the hottest video games (*Rock Band 2* and *Guitar Hero World Tour*), we chose holiday gifts that rocked the house. Whether a hot new notebook or a wicked cool iPod speaker system, these gifts all have one thing in common — they rocked during our tryouts. **Page 34**

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## Morris, 20 years later

Re: Morris worm turns 20: Look what it's done ([www.nwdocfinder.com/7421](http://www.nwdocfinder.com/7421)):

While it's true that the Morris worm generated the first major mainstream-media coverage of the Internet, it's a wild exaggeration to say, as Steve Bellovin does, that "Nobody had ever heard of the Internet unless you were a computer scientist." At that time, there were millions of people in academia and among recent college graduates who were not computer scientists but knew what the Internet was, and a significant number of them had regular access to (at least) Internet e-mail. I, a junior in college, majoring in history, who never took a computer class in his life and couldn't program his way out of a paper bag, was one of those people.

*Greg Andrew*

**Discuss at [www.nwdocfinder.com/7422](http://www.nwdocfinder.com/7422)**

Re: Where is Robert Morris now? ([www.nwdocfinder.com/7423](http://www.nwdocfinder.com/7423)):

Great piece on the Morris worm; thanks! I would add that the focus also expands, in addition to profit, to include a new form of warfare, as when Russia has attacked various countries via denial of service on a very big scale.

*Robert Carter*

**Discuss at [www.nwdocfinder.com/7424](http://www.nwdocfinder.com/7424)**

## Deep data digging

Re: False scares ([www.nwdocfinder.com/7425](http://www.nwdocfinder.com/7425)):

Don't bet against a motivated foe doing data recovery. As one example of what can be done with paper, see this BBC piece on the Archimedes Palimpsest ([www.nwdocfinder.com/7432](http://www.nwdocfinder.com/7432)), where researchers are using multispectral imaging to recover text from a 13th-century book that had been scrubbed clean and reused.

If you're serious about document destruction, you shouldn't put up with any less than a heap of slag or a lump of molten plastic as the output of your efforts.

*Edward Vielmetti*

**Discuss at [www.nwdocfinder.com/7425](http://www.nwdocfinder.com/7425)**

## Twitterpation

Re: Twitter squatting ([www.nwdocfinder.com/7426](http://www.nwdocfinder.com/7426)):

I understand that squatting can be an annoyance, and that the cost to the squatter is essentially null compared to the annoyance to the person whose brand is squatted.

But Twitter IDs are not quite like domain names. In fact, I studiously ignore tweets from users with corporate brand names, since I assume those aren't human-generated.

I'd be more concerned about squatters going after people's names. And that really would be a concern only if they not only squatted but used those IDs to undermine the person's reputation. And, as others have pointed out, this is just as much a problem with any other venue where you create an account that claims to be associated with a person, for example, a Web mail or social-network account — or even signing a name on a comment. Like this one. But I'm really me, I swear!

*Daniel Tunkelang*

**Discuss at [www.nwdocfinder.com/7426](http://www.nwdocfinder.com/7426)**

## Risk mgmt. in down times

Re: How you can use identity management to decide where to invest your hard-earned cash ([www.nwdocfinder.com/7427](http://www.nwdocfinder.com/7427)):

We've seen firsthand that companies that embraced risk management as a discipline were better prepared to manage the IT implications of the economic downturn. It's pretty interesting — now, there seems to be even more focus on managing IT risk, particularly the risk associated with identity and access. As layoffs loom large and companies are acquiring or being acquired, they have an even greater need to manage and control the "insider" risk. I have a feeling we haven't seen the last headline about disgruntled employees committing sabotage or selling data for profit on the Internet.

It makes eminent sense for organizations to conduct identity risk audits now to better anticipate the risk of turbulent times while protecting their corporate integrity. We're recommending companies start with an "identity inventory" to gain visibility and control over the access privileges of their employees, contractors and partners. Taking this step in advance of downsizing, merger or acquisition activity can pay big dividends by enabling companies to better navigate large-scale terminations or transitions. As simple as it sounds, tracking and monitoring "who has access to what" gives employers a big advantage in the risk-management game — and helps minimize those insider-sabotage headlines.

*Mark McClain*

*Founder and CEO, SailPoint*

**Discuss at [www.nwdocfinder.com/7428](http://www.nwdocfinder.com/7428)**

*E-mail letters to [jdix@nww.com](mailto:jdix@nww.com) or send them to John Dix, editor in chief, Network World, 492 Old Connecticut Path, Framingham, MA 01701-9002. Please include phone number and address for verification.*

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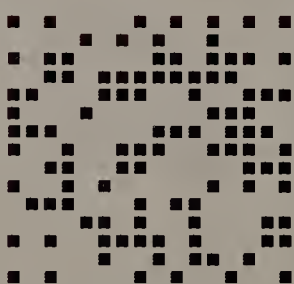
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## BLOGOSPHERE

■ **An open letter to to President-elect Obama.** Richard Stiennon writes in his Stiennon on Security blog: "I am writing to alert you to the serious action that is required to secure the information systems of the country that you will soon lead. To say that the U.S. government computing infrastructure — in all of its various branches, departments, and offices — is vulnerable is an understatement. While the GAO and OMB have been doing what they can to push security, they are facing staunch resistance to change. Anyone in the private sector who has tried to implement change in security practices has encountered the resistance that is now in evidence within your government. Only through executive dictate can real change happen. Here are my ten suggestions for immediate action to secure the United States against the threat of espionage, random attacks, terrorist attacks against cyber infrastructure, and all-out cyber warfare."

[www.nwdocfinder.com/7436](http://www.nwdocfinder.com/7436)

■ **IT and tough times.** Glenn Weadock writes in his On Windows Server 2008 blog: "So, the stock market has tanked, may tank further, and the gurus (not that they're always right by any means) seem to feel that the United States is looking at a two-year recession, if not longer. Feeling a bit philosophical, I started wondering how much the financial meltdown will impact infotech. The net effect seems blurry at this time, partly because companies put money into IT if they perceive that it will improve productivity, and you can argue that improving productivity is just as important in lean times as in prosperous ones. When your bottom line is being pummeled, you look for ways to economize; and although early implementations of PC technology did not necessarily bring productivity gains (my 1995 book, *Exploding the Computer Myth*, was all about that thesis), many companies have by now figured out how to use IT to run leaner, meaner, and smarter. (In some cases, just leaner and meaner.)" [www.nwdocfinder.com/7437](http://www.nwdocfinder.com/7437)

■ **Healthcare providers are scrambling to become PCI compliant.** Jamey Heary writes in his Cisco Security Expert blog: "PCI compliance has been a focus for retail companies for years, but it is only recently that healthcare providers are diving into the PCI pool. Healthcare providers, like hospitals, doctor's offices, clinics, etc., are just starting to appreciate the sometimes massive amount of credit card data that is being transmitted and stored on their networks and hosts." [www.nwdocfinder.com/7438](http://www.nwdocfinder.com/7438)

INTERVIEWS, THE COOLEST TOOLS AND MORE

ITV VIDEO

### COOL TOOLS:



#### Holiday gift guide

Check out Keith Shaw's favorite tech gifts for the upcoming holiday season, take a special, behind-the-scenes look at the rock-star photo shoot, and watch Keith play Rock Band 2 with a bunch of his "friends."

[www.nwdocfinder.com/7444](http://www.nwdocfinder.com/7444)

### TECH UPDATE 2.0:

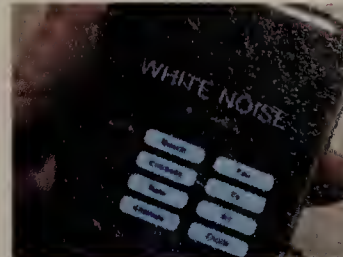


#### Better search via text analytics

Searching for meaningful data in an enterprise environment is still not easy, but as Lexalytics Jeff Catlin shows, new search techniques are here to help.

[www.nwdocfinder.com/7445](http://www.nwdocfinder.com/7445)

### IDG NEWS WIRE:



#### White noise

Having trouble getting to sleep while on the road? The handy White Noise app plays a variety of background noises to help Mr. Sandman come visit.

[www.nwdocfinder.com/7446](http://www.nwdocfinder.com/7446)

## BEST OF NWW'S NEWSLETTERS

# Reduce data breach risks with secure USB flash drives

**Tech exec:** Imagine yourself in this position. It's Monday morning, and your task is to go to your lead executive to let him know that an ambitious employee who wanted to get some work done over the weekend just reported that her USB flash drive was either lost or stolen from her desk. The drive contains downloaded medical and financial records for 1,200 patients with HIV/AIDS and other medical conditions. The data stored on the drive is not password-protected or encrypted and includes the patients' names, medical record numbers, billing codes, the facilities where the office visits occurred and other billing information. It also included the patients' Medicaid or Medicare numbers, which can indicate their Social Security numbers or those of their spouses. What a way to start the week, right?

The unfortunate thing is that this scenario really happened. In July 2008, an administrator at the Harris County (Texas) Hospital District admitted losing the USB drive with all that sensitive information. She simply wanted to catch up on her work at home over the weekend, and now the county department has a major data breach — as well as HIPAA violations — on its hands. Could something like

this happen in your office? Very likely, yes. In recent years, USB flash drives have proliferated; their cost and convenience make them extremely popular with office workers. You, yourself, probably have a handful of them in your desk drawer. I do.

[www.nwdocfinder.com/7429](http://www.nwdocfinder.com/7429)

**Wireless:** The last few newsletters have examined industry efforts to improve over-the-air uptime in wireless LANs. But the RF portion of the network is just part of the equation. The access point infrastructure and WLAN controllers require high-availability schemes to ensure that WLANs perform comparably to Ethernet. As noted last week, if an access point fails, one of two things is likely to happen, depending on the vendor's architecture: A nearby access point will increase its power output to fill in the gap, or the network will route around the failure to another access point, likely using a mesh setup. One question this raises is: Can you keep an access point (and its WLAN controller connection) from failing in the first place so as not to cause a ripple effect of increased loads and congestion in nearby access points?

[www.nwdocfinder.com/7430](http://www.nwdocfinder.com/7430)



# Cisco boosts edge router, targets SMB market

**C**isco has unveiled an enhanced enterprise edge router with a higherspeed processor and launched yet another initiative to better penetrate the small-to-midsize business market. Cisco's ASR 1000 Series 20Gbps Embedded Services Processor (ESP-20G) doubles the service processing rate of the ASR 1000, which debuted in March and has 250 customers.

The processor offers application performance and control features including optimization for such business applications as ERP and CRM, and tools to help customers prioritize or block more than 60 applications including Skype and instant messaging. Cisco's ESP-20G for the ASR 1000 Series is priced at \$50,000. Separately, Cisco announced a \$100 million investment in product development, services and support for businesses with fewer than 100 employees. Cisco formed the small-business technology group to execute the strategy, led by Senior Vice President Ian Pennell. All new small-business offerings will be named Cisco Small Business or Cisco Small Business Pro, with Pro products designed for customers with

more sophisticated technology needs.  
[www.nwdocfinder.com/7441](http://www.nwdocfinder.com/7441)

## AT&T snaps up Wayport for Wi-Fi boost.

AT&T expanded the scope of its Wi-Fi business last week by purchasing Wayport, which specializes in providing wireless-network management for several big corporations, including Four Seasons hotels and McDonald's restaurants. The \$275 million acquisition will expand AT&T's Wi-Fi footprint to roughly 20,000 locations in the United States and more than 80,000 locations around the world. AT&T customers will have access to all the newly added Wi-Fi hot spots, the company says, and will be able to connect for free using their AT&T-enabled smartphones and laptops. In addition

to gaining more Wi-Fi hot spots, AT&T will take over Wayport's Wi-Fi management infrastructure to provide enterprise customers with managed Wi-Fi services.  
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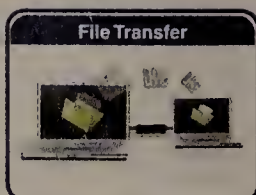
**U.S. tech wages fall in the third quarter.** Wages for U.S. technology jobs fell significantly in the third quarter compared with the same period last year, the IT staffing company Yoh Services reported last week. Early in the third quarter, average wages increased by 1.86% compared with 2007; but average wages ended up dropping 6.21% below 2007 levels as the quarter ended. Yoh expects softness in wages to continue through the end of the year, but the situation may stabilize in early 2009. Hot technology job titles in the third quarter included Java developer, Oracle database administrator, .Net developer, SAP consultant and firmware/embedded engineer. Yoh arrives at its numbers by taking a sample of the temporary technology labor pool at about 1,000 companies in such sectors as aviation, engineering, IT, manufacturing, scientific, telecommunications and utilities. Wages in the telecom, healthcare and aviation sectors remained steady in the third quarter, Yoh said.  
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# Microsoft touts virtualization

BY JOHN FONTANA

Microsoft last week distributed a pre-beta of Windows Server 2008 R2 to a select group of testers, and highlighted the software's virtualization capabilities, integration with Windows 7 and other features.

The company has moved to align R2, which briefly was referred to as Windows Server 7, and the Windows 7 client operating system, although Microsoft officials would not say if they would ship together.

Users who adopt both, however, will get new security, networking and other features, even though some of those will require network upgrades, such as implementing IPv6.

The pre-beta of R2, which is a 64-bit-only platform, was given to attendees of the company's WinHEC and TechEd EMEA (Europe, Middle East and Africa) conferences last week. The pre-beta comes a week after Microsoft distributed Windows 7 to attendees at its Professional Developers Conference (PDC).

The company said a more widely distributed R2 beta would come next year alongside the Windows 7 beta. Two weeks ago, Microsoft said at its PDC that the Windows 7 beta would ship in early 2009.

Bill Laing, Microsoft's vice president of Windows Server and systems, however, said after the tandem release of the two betas that Windows 7 and R2 would not necessarily share the same ship date.

Microsoft observers have been theorizing that Windows 7 could ship as early as mid- to late 2009. Laing said last week Microsoft still plans to ship R2 in 2010.

Microsoft also said customers should begin thinking about migrating from Windows Server 2000, which will not run on newer hardware, especially multicore systems.

The R2 beta's integration with Windows 7 was high on the server's feature list. Also on that short list were virtualization, which includes the Live Migration feature pulled from the first release of Microsoft's Hyper-V

server virtualization technology; management features, such as reduced power consumption; scalability that includes support for 256 processors; and an improved Web platform around Internet Information Server 7.0.

The Windows 7 integration points include a laundry list of features including DirectAccess, which lets Windows 7 PCs connect directly to intranet-based resources without a VPN connection being needed.

While DirectAccess could eliminate a VPN infrastructure, users will have to support IPv6 and IPSec on their network to access intranet resources. Only a handful of companies are running IPv6. The U.S. Department of Defense has said it is adopting IPv6, but has yet to roll it out.

IPv4 networks could provide translation services to IPv6, Microsoft said. R2 will support the Teredo Server, Teredo Relay, ISATAP Router and 6to4 router transition technologies. Six months after R2 ships, Microsoft will add its Forefront Intelligent Access Gateway to the list.

A company's network does not have to be entirely IPv6 for DirectAccess to work, Laing said. The client nodes and some of the network nodes for such tasks as authentication have to support IPv6. Users will need to support IPSec, however, he added. "DirectAccess is a compelling feature, but there is infrastructure work you need to do and it will take time to roll this out," he said.

Other points of Windows 7 integration with R2 include Branch Caching, which caches frequently used content on a branch-office network; a read-only Distributed File System to improve branch-office security; power management via Group Policy, BitLocker drive encryption (referred to as BitLocker To Go) for USB drives; and an Offline Folders feature for mobile users.

Unique to R2 is support for Live Migration, a much anticipated feature add-on to Hyper-V that will help Microsoft match similar tools already available from VMware and open source hypervisor platforms. Live Migration is key for availability and scalability in the Virtual Desktop Infrastructure (VDI) support in R2.

Another key VDI component is Remote Desktop Services (RDS), formerly called Terminal Services, which allows users outside the intranet to connect to desktops and applications running inside virtual machines on a server.

RDS includes the Remote Desktop Connection Broker, an upgrade to Windows Server's Session Broker; and an administrative set-up tool for server-based virtualized desktops and traditional Terminal Services remote desktops.

Microsoft is building its VDI infrastructure on the back of the Connection Broker, Hyper-V and Virtual Machine Manager.

RDS fits in a loose grouping with Microsoft's other virtualized desktop software that is part of its popular Microsoft Desktop Optimization Pack, which includes App-V and Enterprise Desktop Virtualization.

Microsoft also is working on application virtualization for Windows Server 2008, but that will not be part of R2. Also not in the release is technology acquired when Microsoft bought Calista Technologies that delivers 3D graphics, such as Vista Aero Glass, and multimedia support to virtualized desktops.

Microsoft will continue with server announcements next week, when it launches its servers for small and midsize businesses — Windows Small Business Server 2008 and Windows Essential Business Server 2008. ■

## InBrief

### AMD lays off 500 staff

Advanced Micro Devices plans to lay off 500 employees, representing 3% of its current staff. Battered by a resurgent Intel and product delays, AMD has struggled to turn a profit in recent quarters. Last month, the chip maker reported a third-quarter loss of \$67 million on revenue of \$1.8 billion — the company's eighth consecutive quarterly loss. AMD executives hope to recover from their financial troubles, counting on new ATI graphics chips and the company's upcoming Shanghai server processor to turn things around. In addition, AMD last month reached an agreement to spin off its manufacturing arm to Abu Dhabi's Advanced Technology Investment Co. in a deal valued at \$2.1 billion. Earlier this year, AMD announced plans to lay off around 1,600 staff, about 10% of the company's workforce at the time.

### Barracuda bites into backup and disaster recovery

Security appliance vendor Barracuda Networks has bought BitLeap, which sells managed backup and disaster-recovery services, as well as the LeapServ appliance, which automates backups over a LAN. Financial details of the acquisition were not released, but Barracuda said that it plans to retain all of BitLeap's employees. BitLeap's products will be renamed, with the managed service now called the Barracuda Backup Service and LeapServ now renamed the Barracuda Backup Server. Based in Carlisle, Pa., BitLeap has a staff of 16.

### Data infrastructure event

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# Defining security myths, truisms

BY ELLEN MESSMER

They are etched into the conventional wisdom of IT security, but are these 11 articles of faith (to some) actually wise, or are they essentially myths? We've assembled a panel of experts to offer their judgments.

## 1. There's security in obscurity.

**David Lacey**, Jericho Forum founder and researcher: Yes, there is. Not everything is known or knowable to an attacker. This uncertainty prevents and deters the vast majority of attacks.



Nick Selby

**Nick Selby**, analyst, The 451 Group: No, there's convenience in security. Say you're trying to keep your kid from discovering the birthday party plans you're making, and you don't want the workaday toil of waiting until he's asleep to discuss them. So around the dinner table, speak German. Now, for protection of ... well,

anything, it's just not on. Wherever you hide the front door, it is trivially discovered, so recognize you live in a bad area, get a strong front door with good locks — and don't hide the key under the garden gnome.

**Bruce Schneier**, crypto expert, chief security technology officer at BT: All security requires some secrets: a cryptographic key, for example. But good security comes from minimizing and encapsulating those secrets. The more parts of a system you can make public — the less you have to rely on secrecy or obscurity — the more secure your system is.

**Peter Johnson**, global information security architect, Lilly UK: It can slow down the bad guys, but they will find out in the end. It is like closing the front door at home, and hoping nobody will try opening it.

**John Pescatore**, Gartner analyst: Only true within the bounds of the tried and true concept of "need to know." For example, keeping your password obscure is obviously a smart strategy — only you have a need to know. ... Where this one falls apart is when the assumption is that obscurity means security. This is never true — and worse, when people design software with this concept in mind, all kinds of bad things happen.

**Richard Stiennon**, independent analyst: I was thinking about this in terms of Web application firewalls. There are 70 million Web sites but probably only a few thousand Web application firewalls sold so far. Most Web sites are protected by the principal of security through obscurity.

**Andrew Yeomans**, vice president of global information security at an investment bank, and Jericho Forum member: Obscurity buys

you time, but doesn't last forever. Obscurity can add an extra barrier, and may deter poorly resourced attacks. But a better-resourced attacker may succeed, and as costs keep dropping, may only need low-cost resources in the future. And once obscurity is lost, security is lost forever, too.

## 2. Open source software is more secure than closed source.

**Yeomans**: At least when open source breaks you get to keep the pieces, and might be able to glue them together yourself. Some open source software has been well inspected ("many eyes make bugs shallow") but conversely other open source software is relatively insecure. There's probably little to choose between comparable open and closed source software on pure security grounds. But open source has the advantage that you can do a code review yourself, or pay to have one done, and also that it is possible to fix problems yourself without having to wait for the vendor.

**Lacey**: They present a different set of risks. Neither is more secure than the other.

**Schneier**: Secure software is software that has been analyzed by smart security programmers. There are two basic ways to get software analyzed: You can pay people, or you can make the code public and hope they do it for free. Open source software has the potential to be more secure than proprietary software, but making code public doesn't magically make it more secure.

**Johnson**: At least you know what you're getting [with open source] — but it requires a different approach to support it, particularly in a regulated environment.

**Pescatore**: This one is not that far off, but still not true. The most secure software is software that is developed with the most attention to security. Most open source development projects do not have much of a secure development life cycle. But I do believe that software developed knowing the source will be open is more secure than software developed that is depending on security through obscurity. Developers are less likely to build in Easter eggs, back doors and other stupid things when they know the source will be widely viewed.



John Pescatore

## 3. Regulatory compliance is a good measure of security.

**Lacey**: Yes, it is. I have always found a direct correlation between the number of controls implemented and the level of incidents and vulnerability.

**Selby**: LOL.

**Stiennon**: Obviously not. You can be extremely secure but not compliant. Just as you can easily be compliant but not secure.

**Schneier**: Compliance is a good measure of the regulation. If the security regulation is a good one, then compliance improves security. If it's a bad one, then it doesn't.

**Yeomans**: It's not always a measure of good security. Regulatory compliance will help provide a reasonable base level of security, and may make it easier to justify the budget cost. But it may sometimes lead to good security measures being noncompliant, and compliant measures being more expensive than is justified.

**Johnson**: There are usually many ways to comply with a regulation — not all are as secure as the others. Experience has shown this, and now the regulators are starting to try to specify requirements, which is going to be difficult as they generally do not understand security.

**Pescatore**: No-brainer, dead wrong. Especially for something like Sarbanes-Oxley, which has actually nothing to do with security. What we tell clients is: Protect your business, protect your customers and then demonstrate compliance to whatever regimes you are under.

## 4. There's no way to measure security return on investment.

**Lacey**: You can assess many benefits accurately based on historical statistics, but not every benefit is measurable, and future benefits cannot be guaranteed.

**Schneier**: There are lots of ways to measure security ROI, all of them flawed. This doesn't mean we should stop trying, however.

**Yeomans**: ROI makes a lot of sense for a vendor, much less for a purchaser. "Prevention of a possible loss" isn't a gain, otherwise I'd be rich from not betting on the lottery! Some security investments have a measurable return, such as more customers or lower expenses. For example, the security measures allowing safe online banking and shopping has generated a positive return in those industries. But it quickly became a minimum requirement for doing business, especially for later entrants to the business.

**Pescatore**: There are plenty of ways to measure security ROI, but there are very few times when doing so makes any business sense. Have you ever seen a CEO ask what the ROI is in having a roof on the building, locks on the doors? The real issue is tying security into business needs — the business needs determine



Andrew Yeomans



the ROI.

**Stiennon:** There is a way today because most organizations have security budgets so they can measure spend on security and compare it to cost of improved security.

## 5. The Russian cybermafia is to blame for the worst online crime.

**Stiennon:** The RBN [Russian Business Network] is responsible for some of the most malicious malware and concerted attacks.

**Lacey:** Depends on what you mean by "worst." It certainly is responsible for a lot.

**Yeomans:** Traditional fraud committed with a computer beats them.

**Schneier:** They're certainly to blame for a lot of it, but I don't think we know enough to rank the various criminal organizations from best to worst.

**Pescatore:** This one isn't far off, but who cares? If your house is robbed because you left the windows open, does it matter where the thief came from? Close the vulnerabilities and you stop all kinds of cybercriminals.

**Johnson:** I would not like to comment to protect the safety of my family.

## 6: Antivirus software is essential to prevent malware.

**Lacey:** Yes, it is. Just try operating without it.

**Yeomans:** Only on some platforms with some types of user. Some people seem to attract malware, others don't. And desktop systems are more likely to be hit than servers, Windows XP more likely than Unix and Vista. The scale of production of malware variants also makes it even more difficult for pure antivirus systems to keep up. Expect a trend toward white-listing and sandboxing techniques and away from simply looking for known bad stuff.

**Schneier:** Antivirus software is necessary but not sufficient. I suppose if you have a really secure network, you don't need antivirus software on the hosts. But why take the risk?



**Peter Johnson**

**Johnson:** It keeps the noise down so you can concentrate on the quiet and dangerous malware that the traditional antivirus is likely to miss. It is still a must certainly in the Windows environment, but that is starting to be challenged based on the lower visibility of malware attacks today.

**Pescatore:** On the desktop, antivirus software is primarily a removal tool, not a prevention tool. In the e-mail flow and in Web security gateways, antimalware is a must.

**Stiennon:** Not a myth. The myth would be: Configuration management and a behavior-based solution can protect you from malware.

## 7. Outsourcing security is riskier than staying in-house.

**Lacey:** Yes, it is. You lose a massive amount of

visibility and control.

**Schneier:** People are risky, whether they get a paycheck signed by you or one signed by the outsourcer. Focus on how those people are hired, how they are trained, how they are monitored, and how they are audited — not on who signs their paycheck. Often, an outsourcer has more security measures in place than you do.

**Johnson:** Operationally, it makes little difference; understanding the requirement, setting the expectation, and then monitoring the compliance is the key.

**Pescatore:** If you need 24/7 coverage, choose a solid managed security service provider, and choose the right services to outsource — then for three out of four businesses, this myth is dead wrong.

**Stiennon:** Outsourcers can hire better people and because they see more real bad things, they are better at reacting.

**Yeomans:** You can't outsource your liabilities. But specialists might beat the local generalist team. It all depends. A well-skilled in-house team will likely beat an outsourcer, but might not be able to provide 24-hour-a-day cover. And if an in-house team doesn't have the skills or time, the outsourced security will be lower risk.

## 8. Biometrics is the best authentication.

**Pescatore:** Only in the movies.

**Yeomans:** So long as you don't mind getting it wrong quite often. False acceptance rates and false reject rates will need to be understood. Biometrics fits some problems well, but not all.

**Lacey:** Depends what you mean by "best." It's the ideal approach but not yet perfected.

**Johnson:** At least you cannot forget it — but it is a bit of a problem changing it regularly. As with many solutions, implementation is the key.

**Schneier:** Like all security systems, biometrics have value but are not a panacea. There are applications where they make great authentication systems, and there are applications where they do not make sense at all.

**Selby:** Have you ever stood at a door or a laptop swiping your finger like an idiot? Even a New York City MetroCard has a certain cranky rhythm. Now let's roll out some kind of biometric-device lock to all 61,000 of our employees. We're safe now — Yes, Gretchen, put your eyeball up to the eyecup. No, look straight ahead. Not working? Maybe you're not really Gretchen, 'Gretchen.' Hurry up — there are 43,600 people trying to get into that bathroom door.

## 9. Digital certificates identify a Web site.

**Stiennon:** Good one!

**Yeomans:** When used by good people and processes. Public-key cryptography is still mathematically good to identify a certificate, but it's only as good as the handling process of the certificates.

**Schneier:** Digital certificates can identify a Web site but who ever looks?

**Lacey:** They do if the recipient understands

how to use them.

**Pescatore:** Extended validation SSL certificates do identify a Web site for those of us using new enough browsers to recognize them and who have actually figured out what a green URL bar means — still less than half the users.

**Johnson:** But is it the right Web site, and a safe one? How many users know how to use certificates, and even if they do, what about all the advertisements, and other content feeds?

## 10. Employees can be trained to behave securely and resist social engineering online.

**Pescatore:** This will be true when gambling casinos go out of business because people no longer fall for the illusion that they might actually win something.

**Yeomans:** Yes, but remember Abraham Lincoln said, "You can fool all of the people some of the time." Education will help people detect many security problems, but there will always be some that get past even experts.

**Selby:** Porn on the DCI's laptop. That kind of says it all, about employees behaving securely. And resisting social engineering is really hard, as most people you'd want to hire are socially disposed to try to be, at the very least, helpful.

**Schneier:** We're human, and we act as humans do. Social engineering preys on our inherent humanness. You can train people to behave better, but you will never be able to train them not to be human.

**Johnson:** The saying comes to mind: "You can lead a horse to water, but you cannot make it drink." Training in what to do raises the bar, and reduces overall incidents, but training users to think secure should be the goal.

**Lacey:** You can achieve a substantial improvement but people are not foolproof. See my forthcoming book, *Managing the Human Factor in Information Security*, due out in January for details of how to do this.

## 11. Don't worry, the government has a secret cyber-defense capability.

**Selby:** In the same drawer as its secret economic fix-it plan.

**Lacey:** It certainly does. How do you think they spy on other nations?

**Yeomans:** Of course it does. But unless you are in a business that cannot be allowed to fail, don't depend on the government to help you. They will have more important people who need help.

**Pescatore:** Well, this is true but the secret strategy is to disconnect from the Internet. The strongest attacks are coming from cyber criminals, not governments or nations. The strongest defenses [that don't involve isolation] are seen in private industry, not government. ■



**Bruce Schneier**



# Visa charges into virtualization

BY JIM DUFFY

Visa is looking for a few good people to run its next-generation data centers.

In July, the electronic payments company posted an opening on the Data Center Job Board for a senior facilities engineer in Virginia to ensure the smooth operation and launch of state-of-the-art data centers.

Visa is looking to mimic the 2006 launch of its Operations Center Central (OCC) processing facility in Denver in other data centers around the globe. Visa is pushing the envelope of virtualization in that Denver facility and two others in different locations.

"OCC is an ongoing project," says Andy Lewis, Visa's head of global engineering at the Denver OCC. "Just as we complete one aspect of it there's going to be something else that comes along that is a further enabler to reduce costs and increase reliability and availability, while managing risk at the same time. Is there ever an end state?"

Its business would say no. Visa's 1.6 billion global card-holders account for more than \$3 trillion in annual transaction volume, which is growing at a 20% per-year clip. VisaNet, the company's global network, serves as the backbone for roughly one-seventh of American consumer expenditure.

Each OCC data center will handle more than \$1 trillion in annual transaction volume and is designed to meet the growing volume of electronic credit, debit and pre-paid transactions for the foreseeable future. Network, server and storage virtualization are key to enabling that.

The OCCs run a single synchronized image of transaction processing around the globe. Each OCC runs multiple instances — or virtual images — of that single image within the data center. This gives Visa "redundancy within redundancy" for credit or debit authorization, and the ability to fail over to another data center as well as internally within a data center. Visa engineers at an OCC can manage another data center thousands of miles away connected over the company's VisaNet global payments network.

Virtualization also has helped Visa manage costs. By allocating or replicating processing cycles logically, Visa's IT budget increased only 3% or 4%, and unit costs were cut by about 50% between 2000 and 2007, as transactions grew 20% annually, CIO Michael Dreyer said at a Cisco conference last summer.

But Visa has taken a methodical approach to virtualization, and has adopted different, discrete techniques from all of its top vendors, starting with the IBM Multiple Virtual Storage (MVS) and Virtual Machine (VM)

mainframes it's used since the mid-1970s. The company also uses virtualization offerings from HP/Tandem, VMware and other server, storage and network vendors, Lewis says, to replicate, partition and allocate resources without purchasing and deploying additional physical hardware and software assets.

But the environment has to be right for it, Lewis admits. "Have we gone full bore with virtualization in our production, core systems?" Lewis asks. "No we have not."

"Virtualization is one of the tools in a toolbox we have that helps us lower costs, increase utilization, define flexibility among resources," he says. "Consumption-based pricing, and making sure we have the correct terms and conditions in place with our vendors for software and hardware all play a part in this increased utilization and better value per unit cost. How are you managing assets and utilization of assets? We look at how you can virtualize to gain more

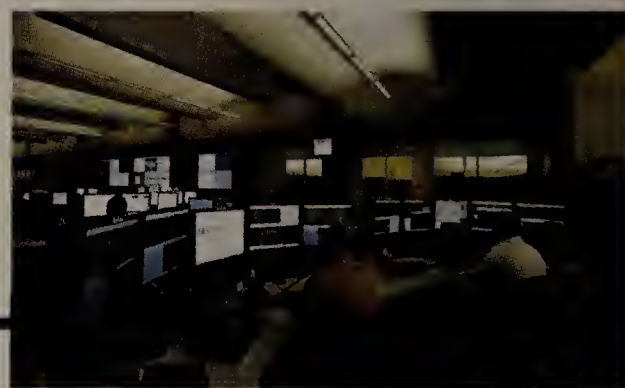
effective usage and consumption of those assets."

But there are many inhibitors to reaching an "end state" of virtualization in and between data centers, Lewis says, where every resource can be physically decoupled from its host machine. Among them:

- Lack of standards — Lewis says this is the biggest inhibitor as there are a lot of "niche, proprietary solutions" available.

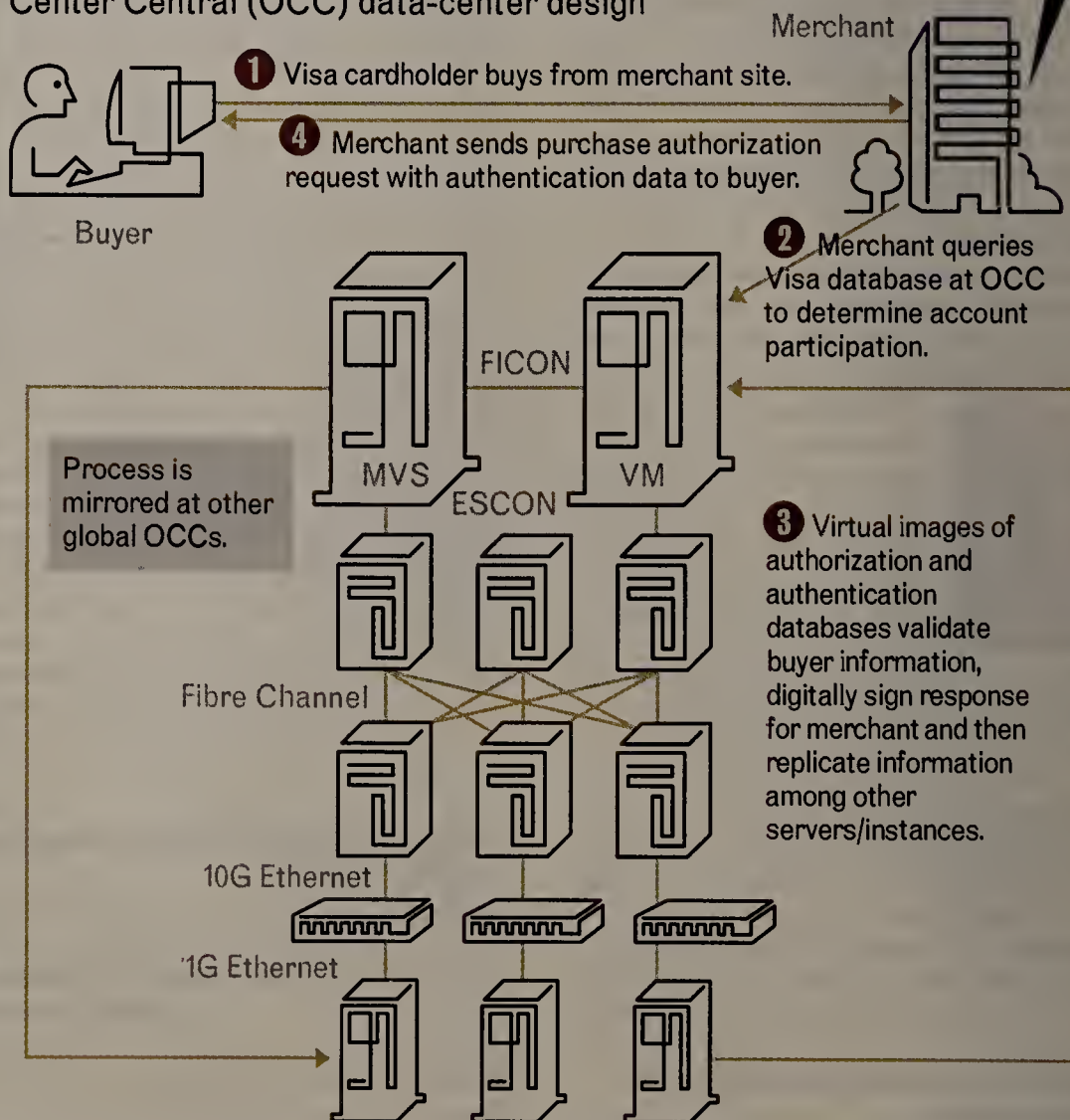
- Immaturity — Many of the legacy hypervisor products are lower-level VM environ-

See Visa, page 19



## Double vision

Visa is leaning hard on virtualization across its Operations Center Central (OCC) data-center design





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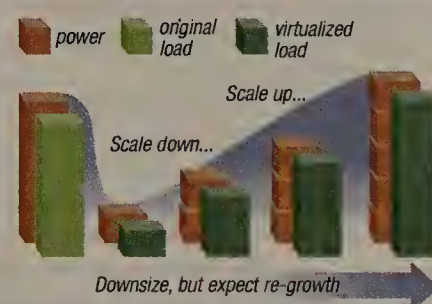
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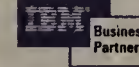


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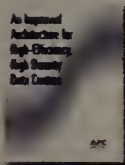
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# EX 8208: better late than . . .

Juniper's data center switch is bumped to the first quarter

BY JIM DUFFY

Juniper Networks this week will gloss over the fact that its chassis-based data center switch is shipping later than planned by playing up its total cost of ownership position.

The eight-slot EX 8208 was supposed to ship by year-end. Juniper held it up until the first quarter of 2009 to extend beta testing and quality assurance.

But what Juniper will talk about is how the 8208, combined with other Juniper EX- and MX-series switches and routers, can reduce TCO by as much as 52% in capital expenditures, 44% in power and cooling, and as much as 55% in data center rack space.

Juniper, a relative newcomer to data center switching — its EX line rolled out earlier this year — says businesses are constrained by legacy architectures that cannot scale with increased processing demand. Juniper recommends adopting its switching, routing and security platforms, and Junos operating system, for a more agile and efficient infrastructure.

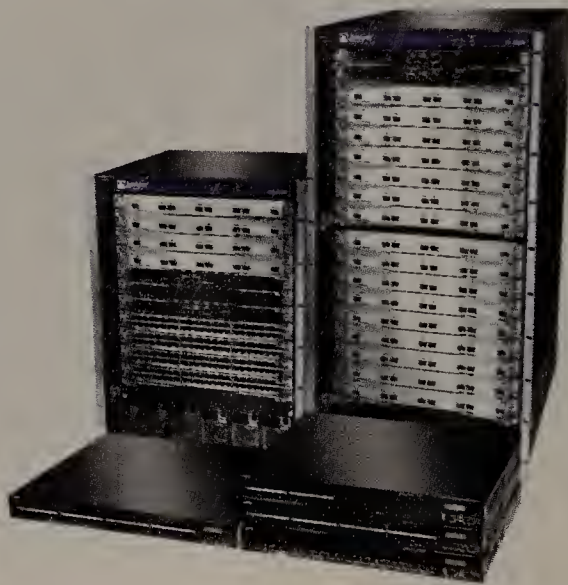
That may or may not be a tough sell, regardless of a shipment delay. Cisco dominates the data center network infrastructure with the Catalyst 6500, and CIOs have a lot of money invested in it and in training. But Cisco is encouraging customers to transition to its new Nexus 7000 switch, and competitors see that as a ripe opportunity to strike.

Also, Juniper says it can eliminate an entire layer of Catalyst 6500 — or any other — aggregation switches. The company claims a combination of its EX-, MX- and SRX-series products can eliminate the aggregation switching layer, between the top-of-rack/end-of-row and core layers, in a data center network design. This is accomplished through the virtual chassis technology in Juniper's EX 4200 Ethernet switches and the 8208s. This combination can reduce the number of interswitch links and the amount of equipment required in the data center by as much as half, Juniper says.

A virtual chassis allows as many as 10 of the fixed-configuration devices to be interconnected into a 480 Gigabit Ethernet port "switch."

Analysts say it's the hinge of Juniper's strategy. "They want the intelligence of end of row switches, but you can't afford to put that intelligence at the top of every rack," says Abner Germanow of IDC. "Virtual chassis is a good way of balancing those two architectures."

The most compelling application, according to Forrester Research's Rob Whiteley, is the ability for data center managers to extend a tool such as VMware's VMotion across physical boundaries yet within the same logical Ethernet domain. This allows virtual machine mobility between physical data centers, he says.



"It hugely simplifies your VMotion architecture, and it basically puts that intelligence burden on the network," Whiteley says.

Juniper also says its SRX VPN, firewall and intrusion-prevention services gateway can replace more than 12 separate appliances for securing a data center. This can be managed through a single Juniper Network and Security Manager interface to achieve a 25% reduction in operating costs, Juniper says.

Major data center vendors are pitching a

unified switching fabric approach that would consolidate legacy technologies like Fibre Channel over 10 Gigabit Ethernet. Standards for those are not expected until 2010, but some vendors are getting a jumpstart with prestandard implementations.

It seems that Juniper won't be one of them. "Along with partners like IBM, we are investing in the standardization of Converged Enhanced Ethernet, which is a requirement for delivering standards-based Fibre Channel over Ethernet. As the standards get ratified, Juniper will be looking to productize the technology. Driving down complexity in the data center network requires standardization."

For now, Juniper says its approach has been endorsed by EX reseller and Cisco data center competitor IBM, and customers AOL, Commerce Bank and Laboratory of Neuro-Imaging at UCLA.

Germanow says Juniper will still have to pass muster with those longtime legacy users. "An unknown for Juniper is to make the argument for Junos across multiple product lines, and whether or not an enterprise can see the near-term value of that without buying multiple products," he says. "But the switch is clearly a contender and on the short list of a number of data-center switch evaluations." ■

## Once thought safe, WPA Wi-Fi encryption is cracked

BY ROBERT MCMILLAN, IDG NEWS SERVICE

Security researchers say they've developed a way to partially crack the Wi-Fi Protected Access encryption standard used to protect data on many wireless networks.

The attack, described as the first practical attack on WPA, will be discussed at the PacSec conference in Tokyo this week. Researcher Erik Tews will show how he was able to crack WPA encryption, enabling him to read data being sent from a router to a laptop computer. The attack could also be used to send bogus information to a client connected to the router.

To do this, Tews and his co-researcher Martin Beck found a way to break the Temporal Key Integrity Protocol (TKIP) key, used by WPA, in a relatively short amount of time: 12 to 15 minutes, according to Dragos Ruiu, the PacSec conference's organizer.

They have not, however, managed to crack

the encryption keys used to secure data that goes from the PC to the router in this particular attack.

Security experts had known that TKIP could be cracked using what's known as a brute force dictionary attack. The work of Tews and Beck does not involve a dictionary attack, however.

Tews and Beck first discovered a way to trick a WPA router into sending them large amounts of data. This makes cracking the key easier, but the technique is also combined with a "mathematical breakthrough," that lets them crack WPA more quickly than any previous attempt, Ruiu says.

WPA is widely used on Wi-Fi networks and is considered a better alternative to the original Wired Equivalent Privacy standard.

A new wireless standard known as WPA2 is considered safe from the attack developed by Tews and Beck, but many WPA2 routers also support WPA. ■



# Another Day, Another Crisis?

## The Common Denominator in Performance Nightmares

### Just Another Day at the Office

You've probably had it happen, and there's nothing quite like it. First thing Monday morning, a "MUST be handled before noon!" list of emergencies hits you in the face:

- The sales manager is squawking because CRM database is slow.
- Accounting is nagging because email is slow.
- The NAS server is averaging unacceptably high counts of queued disk I/Os.
- You're getting constant poor performance alerts from the SAN.
- Backups have not been completing during the backup window.

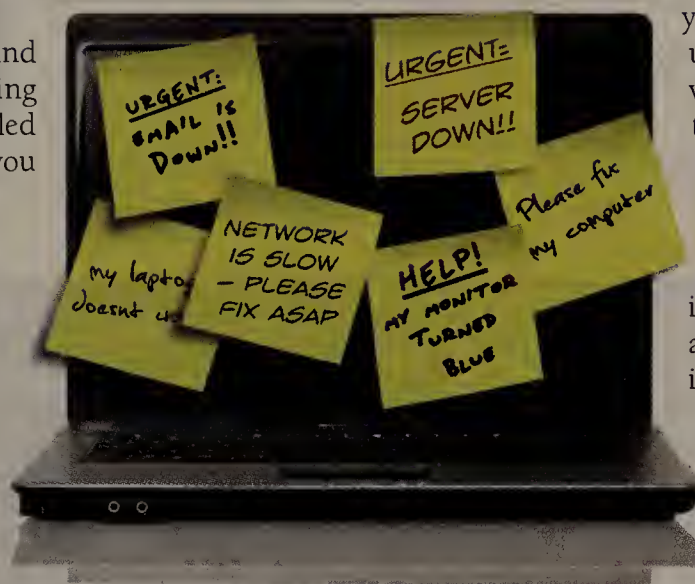
These nagging, ulcer-creating problems are also the subject of several emails from the CFO because, on top of being bad for company production, in this time of economic uncertainty they're also bad for business. Work is being slowed down and the company is losing money.

### The Culprit

The common hardware denominator to all these crises is the hard drive—the slowest link in a computer system. If the data on a hard drive is fragmented, that already dragging weakest link becomes agonizingly slower.

With frenetic requirements for continuous data access, enormous files and huge disk capacities, fragmentation is worse than ever; files in hundreds or even thousands of fragments aren't at all uncommon. Brett Taylor, of Van Wert Medical Services, discovered just how bad it can get. "Our electronic medical records server is a Microsoft® SQL Server® and one day it came to a halt," he says. "I did everything: ran spyware software, deleted numerous temp files, ran Windows® update, etc. but nothing would allow the server to run. It turned out that the hard drive was horribly fragmented."

Craig Merchant of Pace Engineering, San Francisco, discovered very similar problems. "I get a huge amount of fragmentation when I run multiple virtual machines on my system using VMware®," he reports. "I've had as much as 20% fragmentation that the Windows defrag utility couldn't get rid of. In my experience,



virtual machines fragment their disks as much as real machines. But Windows systems running VMware tend to have extreme fragmentation problems, particularly when running multiple VM's."

### Making Mondays Go Away

Making the right defragmentation technology choice in today's frantic fragmentation environment is vital. Scheduled defragmentation has become a problem due to the IT hours required to schedule defragmentation and the downtime required for the defragmenter to run. But worst of all, scheduled defragmentation is no longer fully addressing fragmentation.

The only solution that stands up to today's escalating fragmentation is Diskeeper®. Diskeeper's proprietary InvisiTasking® technology makes for completely automatic, invisible defragmentation. Because it utilizes otherwise idle resources, it requires absolutely no scheduling, freeing up IT time for more important tasks. There is never a negative performance hit during defragmentation, and system performance and reliability are consistently maximized.

### Reliability and Performance Issues Become Nonexistent

Mike Driest, Network/Systems Administrator for Industrial Control Repair in Warren, Michigan, has found Diskeeper to be the only solution. "Automatic disk defragmentation for a server is like oil for the engine in

your car," he says. "One of the most useful features about Diskeeper, when using it on our 20+ servers, is the automatic defragmenting with InvisiTasking. Diskeeper helps all of our servers (Domain Controllers, File, Exchange, SQL, Web, etc.) perform at their very best. Reliability and performance issues relating to a lack of defragmentation do not exist in our environment."

Diskeeper has proven the solution for Andrew Wise, Senior Network Engineer at Datacore Marketing in Westwood, Kansas as well. "We run Diskeeper primarily on our SQL database servers with Fibre Channel SAN connectivity," he says. "It keeps the database and log files defragmented at the OS level to reduce the I/O on our SAN. After installing Diskeeper and doing a full defrag, we noticed around 10–15% reduction in the amount of I/O generated and in the amount of time it took for the SAN to service each request. We are a Microsoft SQL Server database shop and we process terabytes of SQL data on a daily basis, so any reduction in the amount of time it takes to do that processing save us money."

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## 10 tech-related wishes for the new administration



**NET INSIDER**  
Scott Bradner

**T**he new national administration in January will have the opportunity to set the direction on many fronts. Here are the top 10 technology-related areas where a new direction is needed. The Barack Obama campaign addressed some of these in its technology position paper, but others are issues I've covered in past columns.

Regulations are generally the worst way to help technology development because they tend to trip over dependence on the technology of the moment rather than dealing with the underlying principles, but sometimes there is no choice.

**1.** **Ensure a neutral Internet (at least in the United States).** This was the top goal in Obama's technology position paper. Here is a case where regulations are needed to codify a less conditional version of the FCC's four principles.

**2.** **Reconsider link and equipment-sharing requirements for monopoly carriers.** Once upon a time we had real competition for services to residential users because monopoly phone carriers were required to wholesale parts of their infrastructure to competitive local access providers. The FCC killed this a few years ago and Internet service quality and value has suffered.

**3.** **Reevaluate the 10-year-old Digital Millennium Copyright Act.** The safe harbor part of the DMCA is very good but too much of the act is an attempt to preserve an old business model for content owners and the anti-circumvention provisions cause the United States real harm. These parts should be repealed.

**4.** **Mandate privacy protection.** Move away from the current U.S. model where anyone can collect and sell information about individuals without their knowledge or consent. Pass a federal law that empowers individuals to control the obtaining, retention and distribution of information

about them and mandates the protection of any such information. There should be real criminal and civil penalties, which can be invoked by individuals, for the failure to meet the requirements.

**5.** **Mandate proper procedures for law enforcement.** Require that law enforcement at all levels follow proper constitutional processes when obtaining information about individuals. There

the public back closer to what was envisioned by the writers of the U.S. Constitution. At the very least, pass a law that removes copyright restrictions from abandoned works.

**8.** **Revisit the process of evaluating requests for federal grants.** Peer review has proven to inhibit research in new directions; alternate processes should be developed (but reliance on congressional earmarks is not a good alternative).

**9.** **Reorganize the FCC. Change its implicit mandate to one of being concerned with consumers rather than incumbent carriers.** Move to transport independent regulations (where they are needed at all) — minimize regulations that treat cable companies differently from telephone companies.

**10.** **Revoke the universal service fund.** This has proved to be an expensive boondoggle that rewards a few vendors for little benefit to consumers.

There are many other areas that need to be worked on but this list is a start. A new administration is a new chance. Too often the chance is missed, but maybe not this time.

Disclaimer: Harvard does not get new administrations as often as the United States does and may have even more inertia than the U.S. government, but new presidents still manage to make an impact. To date, the university has not expressed an opinion on what direction the administration of this law school graduate should take, so the above is my list, not the university's.

*Bradner is Harvard University's technology security officer. He can be reached at [sob@sobco.com](mailto:sob@sobco.com).*

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should be criminal penalties for individuals who fail to follow proper procedures and for any organization that assists them.

**6.** **Revoke the cable must-carry rules.** Because it is to the benefit of both organizations when a cable company carries a TV station, let the market decide who should pay who and how much.

**7.** **Restore rationality to copyright duration.** Get the balance between providing an incentive to authors and providing for the interests of

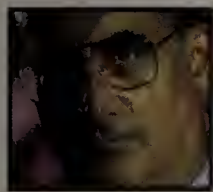
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# CIOs face additional pressures



**YANKEE  
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Howard Anderson

**L**ast year we talked about CIOs — who are both the masters and the victims of doubletalk and who are under enormous pressure to provide more to their users while trying to keep spending under control.

We thought we would check in with our CIO buddy Manny Fernandez, not to be confused with another of the same name who is as popular in Boston as Bucky Dent (don't ask).

## How's your budget process going?

Awful. I thought I had the mandate to spend 4% more than last year ... but that's on hold. We used to spend about 6% on IT and communications ... but it looks like it could be 4.5% to 5% this year. Management keeps making cute little comments about "sharing the pain" and "use it up, wear it out, make it do or do without."

## Problem?

You bet. Storage is like a tape worm; each year it takes more and more of my budget. So I do the short-term cutesy things — like delaying LAN upgrades, cutting outside consulting services and virtualizing my servers. But there is a limit.

## Virtualize PCs?

Not yet. But someday someplace we have to figure out how to throw away some data. Everyone is paranoid. Right now our storage is growing 50% per year in terabytes. We try to rationalize all the time — without taking risks. But we are soon going to be off our mainframes. We said "death to Linux" and we don't support Apple. We are 70% laptops and that trend isn't going to stop. So far we have avoided supporting BlackBerries and iPhones (and soon Google-phones) but that is going to be a losing battle; those suckers are really computers.

## New applications?

Not many. We are still deploying what we started two years ago. But we are looking more closely at teleconferencing again. This happens every time we cut travel budgets

inside the corporation. We still have a lot of underutilized hardware. We will see.

## More outsourcing? Offshoring?

We got really down on outsourcing a few years ago — but we have moved a fair amount of support to Bangalore and Hyderabad. Application development hasn't been as easy as we thought. Outsourcing is like the flu: As soon as the economy gets socked, it comes back.

SAP implementations that suck up money like a vacuum cleaner. That's sacrosanct — don't ask me why. We are stealing from Peter to pay Hans, but we are half done.

## When will you be done?

Never. Maybe longer.

## Frustrated?

Me? Why would I be frustrated? Just because I have to be both the Tech Visionary, the mean-spirited Cost Accountant, the Czar of Platforms, the Purchasing Agent and the Applications Guru? Just because I have to provide a higher level of service and availability at lower levels of cost each year?

## Cutting your staff?

No and I hope not to. That "share the pain" comment by management scares me.

## Sounds like you are between a rock and a hard place.

Not as bad as my buddies in financial services. They used to have a black belt in spending. For most vendors, that sector was 20% of their total business. So every vendor — Microsoft, IBM, CA, SAP, Cisco — now is in here all the time. It's getting so bad that I have to disguise myself as a Fed Ex employee just to get through my waiting room.

## That bad?

Absolutely, positively.

*Anderson is senior managing director of Yankeetek, a Cambridge, Mass., venture incubator. He is also founder of The Yankee Group and the William Porter Distinguished Lecturer at the Massachusetts Institute of Technology. He can be reached at [handerson@yankeetek.com](mailto:handerson@yankeetek.com).*



and MGE Office Protection Systems™ product families. Today the Eaton label is found on UPSs with the highest efficiency, smallest footprint, lightest weight, and easiest installation available to help you meet your power challenges—and **power through**.

## How do you handle the demand for everyone to have an upgrade of their PC each year?

We try to hide it — put it on the division's budget. Let's face it: We are a high-priced technology purchasing agent. What we really like to do is cut our expenditure on server spending. The day that every application got its own server has got to end. Right now about 25% of our server workloads are virtualized. If the economy continues to suck, we'll grow this number to 35%. The dropping cost of storage helps as does the cost of laptops. We have moved to VoIP in a big way.

But counter-balancing that is the multi-year

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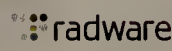
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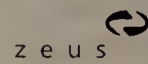
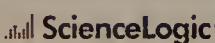
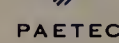
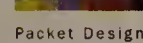
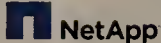
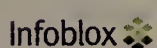
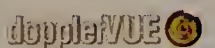
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## NEWS ANALYSIS

### Visa

continued from page 12

ments, integrated at the hardware and firmware level, Lewis says. The newer, higher-level software and application virtualization hypervisors are "more appealing [but] more risk," he says.

- **Charge-back mechanisms** — Managing the normal unit of work and charging back company departments for it is more challenging in a virtualized environment, Lewis says.

- **Shared environments** — The key to virtualization is how you share an environment with another department within the company. Organizationally, that could be an inhibitor, Lewis notes, because offering a single synchronized image breaks down barriers between

**“Virtualization does nothing for you unless you have the integrated processes, the organization, the commitments from various partners and vendors that you work with to address pricing methodologies, contracts.”**

**Andy Lewis**

Head of global engineering, Visa

constituencies.

- **Lack of an "aggregated protocol"** — Something akin to MPLS and its tunneling mechanisms is needed in the data center to converge ESCON, FICON, Fibre Channel, SCSI and Ethernet into a more operationally efficient fabric, Lewis says.

Specific to the standards issue, Visa has to define its own internal standards for managing and securing its virtual environment. Vendors now offer only point products.

"We're making headway with VMotion from VMware; it's improved our ability to have awareness and vision into the usage and consumption and configuration of our environments," Lewis says. "But again, if I go down each vendor's path whether storage or server or network, each vendor has a different approach. There's some concern over whose strategy is actually going to win, who's going to be the manager of managers and who's going to share their IP to ensure it's being managed effectively at the global and client level."

As for an aggregated protocol, vendors are working on standards for unified data-center fabrics, such as the Fibre Channel over Ethernet specification from Technical Committee T11 of the InterNational Committee for Information Technology Standards, and the Converged Enhanced Ethernet/Data Center Ethernet efforts

from the IEEE, IBM, Cisco, Intel, EMC and others. But again, these are in prestandard form, and Visa is reluctant to adopt anything that has not been standardized.

"I'm going to be leery of it for a couple of years until I really think it's baked in as a standard," he says. "We saw this at a higher level [recently] with regard to network file access and I/O: Was it going to be SCSI over Ethernet? SCSI over IP? FCoIP? We will see continued progress in specific areas around ESCON-to-FICON, around Fibre Channel arbitrary looped and switched/switched2 fabrics. . . . But I can't see that there's any one silver bullet right now."

Visa also is evaluating newer virtualization products from Cisco, including the VFrame Data Center resource orchestration appliance, and Nexus 7000 switches. VFrame is an appliance designed to provision compute, network and storage resources together as virtual services through a policy engine that automates resource changes in response to infrastructure outages and performance alterations. Nexus 7000 is optimized for high-density 10 Gigabit Ethernet in the data center, and supports a unified switching fabric designed to provide all servers with access to all network and storage resources.

But pricing and capacity issues and a mainframe legacy keep the company from implementing them, Lewis says.

"We do use mainframe, nonstandard systems" for data center orchestration, he says. "Tandem/HP's implementation, IBM, Sun's. . . . We've got every major vendor that will put us in a competitive place moving forward."

Visa also is a Cisco Catalyst switch shop that doesn't yet require the 1.7Tbps capabilities of the Nexus 7000 switch. Indeed, Lewis cautions that, with virtualization coming back into vogue because of newer players like Cisco, adopting a buzzy technology for technology's sake is not in the Visa blueprint.

"Virtualization does nothing for you unless you have the integrated processes, the organization, the commitments from various partners and vendors that you work with to address pricing methodologies, contracts," he says. "There are a number of aspects that will lead toward our full data-center strategy. In itself, it does nothing without the other disciplines." ■

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# Flying high with open source

"It's always peak hour somewhere" on the Sabre Holdings network, but open source software helps the company meet its demanding uptime requirements

BY PAUL DESMOND

**T**o say Sabre Holdings is a believer in open source technology is an understatement. The company, whose IT department supports the Travelocity Web site, the Sabre Travel Network and Sabre Airline Solutions, has been using open source tools for some 10 years, according to CTO Robert Wiseman. Cost certainly factors into the reason, but it's Sabre's ability to control its own destiny by making whatever changes it deems necessary that's the real motivation. Along with Kevin Bomar, Sabre's senior principal of middleware services, Wiseman explains how open source software and the community that supports it help Sabre deliver solutions that meet its demanding uptime requirements.

## Can you give me a sense of the scale of your operation?

Robert Wiseman: We have about 5,000 servers across the world, probably two-thirds running open source. Close to 100% of our requests go through a server using open source technology at some point, primarily Linux.



Randall Spratt, executive vice president and CIO at McKesson, considers open source an essential part of his product development strategy. **Page 25.**

"As open source becomes more mature, there's going to be a fine line between how people view commercial products and open source products."

Robert Wiseman  
CTO, Sabre Holdings

## Do you use other, non-open source operating systems?

RW: We've standardized on Red Hat Linux, but our mainframe runs a mainframe operating system, and we have some legacy Unix systems running various proprietary operating systems, but we're starting to phase those out as we move to a standard Linux environment.

## What other open source technologies do you employ?

RW: We use a lot of them, from Apache and Tomcat [Web servers] to open source ESBs [enterprise service bus], test tools, open source databases, Terracotta for caching, and so on.

## What are the key benefits?

RW: Certainly cost is an attractive aspect, which is probably one of the first reasons that everyone starts to look at open source. Another is the ability to have access to the code, to have control of your own destiny. At Sabre we're a 24/7 environment and we run 32,000 transactions per second across our systems at peak. We can never afford to be down because we support airlines and travel agencies across the world and, as we say internally, it's always peak

hour somewhere. If we run into problems — which thankfully is very rare — we have the ability to go in and take a look at the code ourselves and make fixes if necessary. With a commercial, off-the-shelf solution, you're pretty much dead in the water. You have to fall back [to a previous revision], if that's even feasible, or wait for a vendor release.

Kevin Bomar: In some cases, support is also a benefit. A lot of times, the support you can get for open source products — the developer help and so on — is better than you get for commercial, off-the-shelf software.

## How important was access to that developer community in your decision to use open source tools?

RW: Very important. Vendors are traditionally very responsive; it's one of the things we pay them for. But it's also good to have a community that can help you address things that maybe even some of the vendors haven't seen.

KB: It's important to see how current, large and active the community is. If you're considering a certain open source solution and it hasn't had an update in a year, that probably

See Sabre, page 24



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**Sabre**

continued from page 20

means the community is not very active and you should probably reconsider.

**What kind of things do you rely on the community to help with?**

KB: For developer knowledge bases and, depending on the size of the community, fixes and patches. In some cases, we go after third-party support for this; in others, the community is good enough.

**How do you determine whether the community is good enough?**

KB: If it's component-level, it's probably OK to rely on the community. If it's in the middleware space, you need to determine how broad and active the community is — looking at things like how fast patches get out and how tightly the ship is run for that community. In some cases in the middleware space, we can rely on the community; in others where we decided we wanted more of a guarantee of 24-hour support, fast turnaround time on patches and so forth, we've gone with third-party support.

**Are there any projects you've undertaken using open source technology that could not have been implemented any other way?**

RW: There are certainly projects that might not have been practical without access to open source solutions, for proof of concept or prototyping. One of the benefits of open source in the early stages of a project is you don't have to buy the licenses. You don't necessarily really

care about support if you're just doing a proof of concept or a prototype. So, having access to a range of open source products for some of our R&D groups spread across the world allows them to get fairly mature and fairly well-baked solutions without spending an awful lot of money.

**What have been the biggest challenges in deploying open source technologies?**

RW: The biggest thing is that a lot of developers have never met a download they didn't like. One of the good things about open source is easy access to the open source technology and products. One of the downsides to it is the easy access to the wide range of products and technologies. I suspect a lot of companies are using open source that actually aren't even aware of it. We go through a lot of effort to control our use of any product, whether open source or commercial, because there is a tendency for developers to download a solution and just start to deploy it. That can start to get out of hand.

**How do you keep them from doing that?**

RW: Education, governance, management. We look at their code, we know what the builds are that are going in.

KB: Sometimes there are multiple open source solutions for the same problem, whether it's rules engines or ESBs. At that point, you need to evaluate which one is the best because you don't want to have two open source solutions for the same problem. So, that gets into bake-offs, benchmarking, looking at stability and level of support — that type of

thing. As Robert said, it's educating the developers and getting a level of maturity in the developers of how they use open source, and also having some governance and standards around certain technologies.

**Have you encountered any dangers from using open source technologies?**

KB: With a [commercial, off-the-shelf] solution the vendors have product road maps and business plans that you can follow. You have to keep it evergreen with open source and watch the road map more. That's why having layers of abstraction is important. If an open source solution starts to lose active community, you need to have a migration path in mind.

**Have you ever had to swap out a product because the community was faltering?**

KB: I can't think of an instance where that has happened. There have been times where we've seen one open source solution start to rival another and maybe take the lead. Rules engines seem to leapfrog each other fairly often. ESBs are a fairly active area as well. You've got Mule, ServiceMix, the Apache ESB. So, you need to just watch those areas to see which is going to be best-of-breed a year down the road.

**What advice can you give to others who are looking to employ open source technologies?**

RW: If you're going to use it in a critical environment, you need to make sure you've got support. Abstraction is an important piece whether you're using open source or not, so you have the ability to move quickly should you need to. Training is another aspect. If you're going from one product to another, you have to bake that into the cost/benefit analysis. There are a lot of things that come with changing products: training, support, abstractions to make sure you don't couple yourself to any technology, making sure the community is mature, that there are openly available benchmarks. You ideally want to choose a mature product. You don't want to be one of the first guys out.

**What do you think the future holds for the role of open source in the enterprise?**

RW: As open source becomes more mature, there's going to be a fine line between how people view commercial products and open source products. When you look at the more mature open source products, there often isn't a lot of difference in price compared to commercial products — in some cases because vendors have brought down the price of commercial products in order to compete. But the other benefits we mentioned — access to the code, the maturity of and access to the community — tip the scales in favor of open source.

*Desmond is events editor for Network World and president of PDEdit, an IT publishing company in Southborough, Mass. Reach him at paul@pdedit.com.*

**Getting Personal: Robert Wiseman**

<b>Title:</b>	Senior Vice President and CTO
<b>Organization:</b>	Sabre Holdings
<b>Responsibilities:</b>	Technology, starting at the bottom of the stack and working upwards, including storage, database, data management software, network, servers and operating systems. Applications and customer-facing services are the responsibility of business unit owners.
<b>Annual IT budget:</b>	Approximately \$20 million
<b>Number of IT staff:</b>	150
<b>Previous jobs:</b>	CTO at Travelport (Sabre's largest U.S. competitor); senior vice president at Orbitz.
<b>First PC:</b>	Gateway 486DX, circa 1998.
<b>Home network:</b>	Wireless LAN supporting two laptops, two desktops, a PlayStation 3 and PlayStation Portable, and a BlackBerry.
<b>First Internet experience:</b>	"Pretty late. Around 1996 at Delta Air Lines, I came across AltaVista and was blown away. A year later, at my wife's urging, I asked for, and was given, technical responsibility for Delta.com, which at that point was viewed by Delta corporate as a 'tech toy.' When I left in 2001, it had generated about \$1 billion in revenue for Delta."
<b>Words to live by:</b>	"Being personally right isn't important; getting the right answer is."



# A prescription for lower costs

Open source technologies help McKesson deliver lower-cost IT solutions to its healthcare customers by trimming the tab for hardware and software

BY PAUL DESMOND

**M**ckesson Corp. is a multifaceted healthcare company, a large distributor of pharmaceuticals and a thriving developer of healthcare-related IT systems. Its software and hardware are installed in more than 70% of U.S. hospitals with more than 200 beds, and handle everything from billing and scheduling to capturing MRI-machine images and preventing dangerous drug interactions. For the last five years, the company has used open source technology to deliver products at lower cost and greater speed, says Randall Spratt, executive vice president and CIO. Spratt now considers open source an essential part of McKesson's product development strategy.

## What role is open source playing in your strategy?

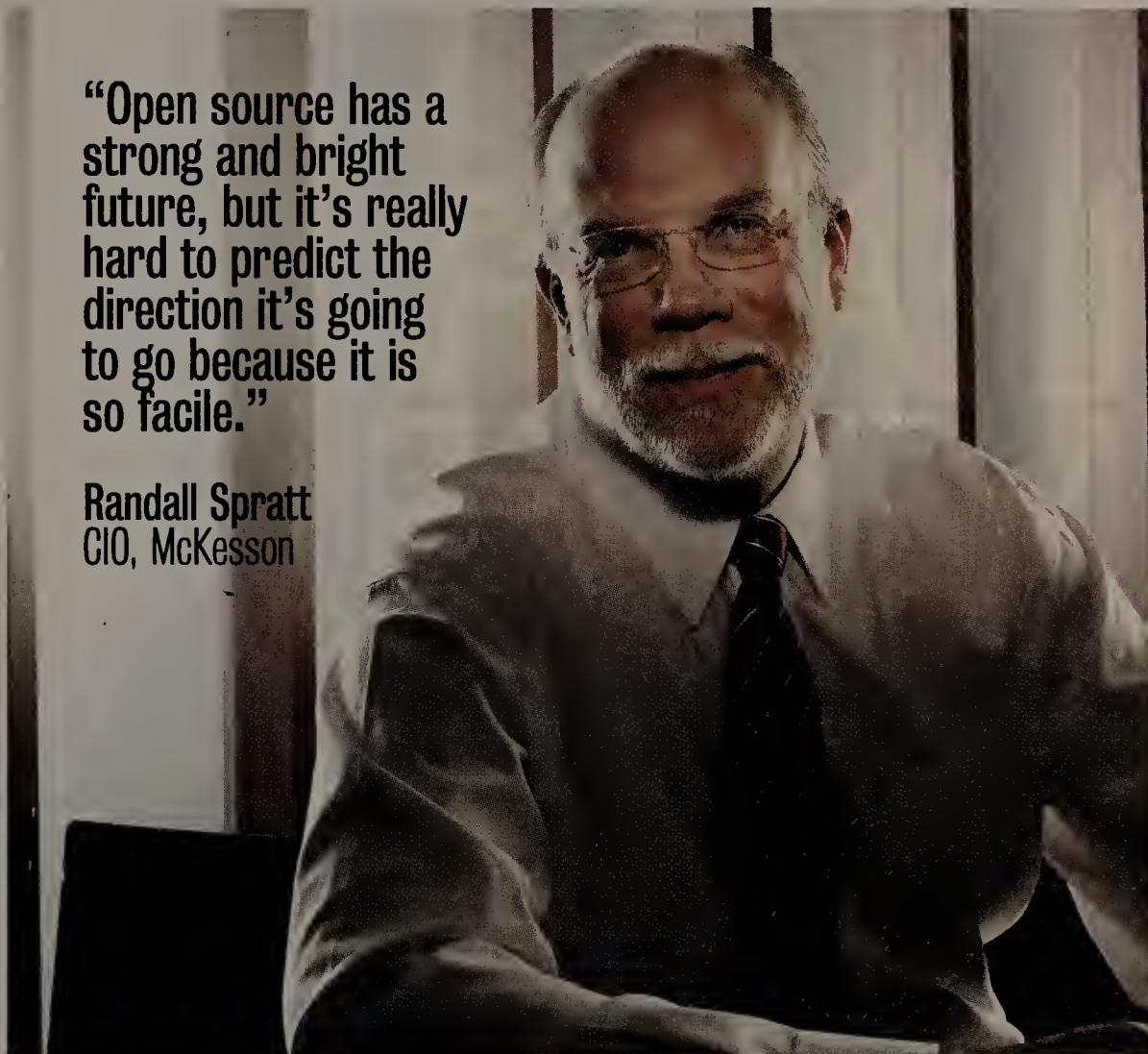
In our technology division, our flagship line of software products is called the Horizon suite. The reference architecture for that suite is dependent upon open source components and tools to create and develop them. We don't talk about product names, but we employ open source operating systems, an open source object-model interface, a number of different open source user-interface widgets and libraries, open source middleware and Web servers, and a variety of open source tools that not only provide low-level program libraries but also support the programming process in general.

## What are the key benefits of open source?

The benefits for us came from the requirements of the markets we serve. Healthcare is an extremely low-margin business with constant cost pressures. Frankly, our customers were not able to consume the solutions they needed at the pace they needed because of cost con-

**"Open source has a strong and bright future, but it's really hard to predict the direction it's going to go because it is so facile."**

**Randall Spratt**  
CIO, McKesson



ERIC MILLETTE

straints. So, we went to open source primarily as a strategy to reduce the extent of third-party costs — primarily hardware and operating system costs — that were in the solutions we sold to customers. We saw those benefits emerge dramatically — an order-of-magnitude reduction in the expense around hardware, for example — but we also got unexpected benefits in speeding some aspects of development and higher levels of performance.

## What were the development benefits?

We got access to libraries of capabilities that we would have had to develop on our own — the ability to take in everything from user interface widgets to libraries of software routines and schedulers, for example.

## And how does open source reduce hardware expenses?

In two ways. The operating systems make more efficient use of lower-cost hardware than many commercial operating systems, and we architected an environment where the application runs on any number of blades that sit on top of one or more database servers and the load is then automatically distributed. Hospitals can start out with a relatively modest invest-

ment and as they add users or applications, scale by adding low-cost blades rather than forklifting out an expensive Unix server and replacing it with a larger server. So, not only do we get the efficiency benefits in the first place, we get a more scalable environment, where each step in the scale is a modest step upward.

## What's your experience been with supporting open source operating systems?

Like everyone else, it's been a journey. Initially we ran into issues and a number of problems with scalability, but I think today we would say it's a very good experience.

## How long have you had open source-based products installed in customer locations?

Three to three and a half years.

## Can you talk more about initial problems?

We architected a load-balanced solution, and we had some difficulty with lost connections and issues with performance of some components. Operating-system support was generally pretty good; but in a healthcare environment, if you run into a problem, it can literally be a matter of life and death. If we had a downed sys-

See McKesson, page 28



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**McKesson**

continued from page 25

tem and couldn't figure it out ourselves pretty rapidly, we needed Tier 3 support right away. We've worked those relationships out. It's just a matter of the companies behind the products maturing in their business models, more than the technology itself.

**Are there any projects you've undertaken using open source technologies that couldn't have been implemented any other way — from either a technical or practical perspective?**

I don't think there's anything we couldn't have implemented from a technical perspective. But practically — meaning within the same time or cost of delivery windows — certainly. Open source has definitely improved our time to market in several key areas, and it's improved the cost of delivery in several key areas. So — practically, yes; technically, no.

**Have you encountered any dangers in using open source?**

Like any software, you have to subject it to diligent testing and add your own quality measures on top. I can't say that all the open source software we've attempted to use has been high quality. But I don't think it's presented a danger; more of a challenge.

**To what extent are you using open source internally in your IT organization?**

Internally we have probably 15% or so of

our server environment under Linux. And we're constantly standing up new Linux servers for R&D. But in terms of production environments the company depends on, it's modestly penetrated.

**Is it growing?**

Yes, it's definitely growing. We were going down a Linux strategy pretty heavily three years ago when we ran into a pretty good speed bump in trying to scale one of our critical applications, and had to retrench and go back to a proprietary operating system to get the performance we needed. That made the businesses very cautious about pursuing it aggressively again. All of our experience tells us that the maturation has been significant since then, but we're slow-rolling it. We tend to put newer, lower-end applications up on Linux and leave the existing apps that are already running on other systems on those systems rather than undertake the risk of change.

**What are your plans for open source going forward?**

We continue to investigate other open source offerings. We're testing out some open source database capabilities that have the potential to replace proprietary database offerings. We continue to extend open source platforms in our infrastructure. As open source applications mature, we're keeping an eye on and evaluating the replacement of some proprietary applications, like [Microsoft] Office for example.

**How is that evaluation going?**

We don't think [open source office-productivity products are] quite ready for an organization of our size, but they're getting close. The replacements for Word and Excel and PowerPoint are probably closer than replacements for Exchange. The e-mail and calendaring have a ways to go, but the document-based solutions, for at least a segment of our user base, are getting close. I don't want that to be portrayed as we're ready to switch, but we're certainly seeing a closure in the gaps.

**What do you think the future holds for the role of open source in the industry in general?**

It plays a strong role in the future. There are some uncertainties about the revenue model. In the end, everything depends on survivable solutions, so if you look at some of these little, tiny companies that are trying to pin a financial future to small code libraries and such, they're going to find it difficult to stay alive. But in general, it will mature and the open source industry probably will undergo some reorganization itself through market forces, not only around consolidation but probably more converged access and more converged common connections or interfaces between the software.

**Expand on that — converged access and common connections.**

If you look at the open source world, it's a collection of everything from useful little applications to little parts and pieces used to build applications and operating systems to run those applications on. But when you get out to the end of the application world, you have fairly large-scale applications that are supporting significant business processes; and those processes need to connect with related business processes. For example, if I'm developing a contract for a customer, that contract has to connect to our quoting system, our contract-management system, our invoicing system and the like. And the open source industry isn't yet to a point where it's offering these large-scale applications. So, for open source to mature beyond what is essentially a tools environment, it's going to need to penetrate the space that's presently occupied by proprietary application vendors. And that means converging some of these tools into larger-scale applications and having those applications share everything from common data definitions to common information-interchange protocols. Think of an open source SAP or an open source Oracle Financials. How do we get there? Because that's really where the business value is.

Bottom line is open source has a strong and bright future, but it's really hard to predict the direction it's going to go because it's so facile.

*Desmond is events editor for Network World and president of PDEdit, an IT publishing company in Southborough, Mass. Reach him at paul@pdedit.com.*

## Getting Personal: Randall Spratt

<b>Title:</b>	Executive Vice President, CIO
<b>Organization:</b>	McKesson Corp.
<b>Responsibilities:</b>	Global technology infrastructure and strategy
<b>Number of IT staff:</b>	620
<b>Previous jobs:</b>	Chief process officer and senior vice president of imaging technologies for McKesson's technology division; general manager of McKesson laboratory systems division in Eugene, Ore. Has been with McKesson, or companies acquired by McKesson, for 21 years.
<b>First PC:</b>	A CPM-based machine made by Control Data Corp., where Spratt then worked. It had a pair of 10-inch floppy disks for storage, and what was then called a graphics monitor. It retailed for \$25,000, but the company paid for it. "It cost me an extra \$2,000 to buy a Fortran compiler for it."
<b>First Internet experience:</b>	Around 1994 or 1995 at the University of Michigan, storing laboratory results in a database made available to physicians over the Internet.
<b>Home network:</b>	A 16-port switch, three wireless access points, eight computers, three security stations, a home media server for backups and media distribution, three online video games, a terabyte storage-area network and three network printers — all behind a firewall-based VPN.
<b>Words to live by:</b>	"We're judged more by what we finish than by what we start."



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# Going green with BPM tools

LAURA MOONEY

It is clear that IT is a key tool in corporate efforts to go green. But while the prevalent focus is on IT power consumption, don't overlook what business process management (BPM) software can do to help you support the environment while generating significant cost savings.

Examine these basics:

- How much paper — printed forms, memos and so on — does the organization consume?
- How much fuel is wasted on interoffice mailings and postal mailings to customers and suppliers?
- How much raw material is wasted because of inefficient manufacturing processes?

BPM tools can help IT organizations significantly reduce corporate consumption in all three areas through process automation, both internally and externally.

## Reduce paper

BPM software proves to be highly effective in the quest to eliminate paper because it not only lets you create online forms and documents, it also lets organizations incorporate those online documents into automated processes that remove the need to manually route and track paper. As a result, BPM eliminates the cost and environmental burden of paper, while at the same time allowing for more effective governance and control.

The average U.S. office worker is estimated to use a sheet of paper every 12 minutes and dispose of 100 to 200 pounds of paper every year. BPM software can serve as the common platform for eliminating paper and automating processes throughout organizations.

Take the City of New Orleans. In 2008, it used BPM software to take its contracts management process online, automating the processing of more than \$1 billion worth of contracts. In the absence of process automation, each contract would have moved by manila folder through eight offices. It had typically gone from one stakeholder desk to another's through inter- and intra-office mailings, often with inefficient tracking and delivery methods.

Beyond the paper savings of online forms and documents, organizations that have aligned BPM with enterprise architecture (EA) efforts have facilitated the electronic documentation of the processes, which otherwise would result in volumes of paper being consumed and stored. That lets organizations create graphical models of all processes, complete with annotations and documented interdependencies. Paper is largely eliminated and it becomes easier to maintain processes and keep them current, reducing the overhead of

ongoing compliance and resulting in more accurate "virtual documentation."

## Reduce fuel and transport

Reducing paper also cuts down on the amount of physical transport required to share information. The ability to complete and submit forms online eliminates the need to mail documents such as applications and purchase orders. In addition, because BPM allows for the automation of human-intensive processes and the movement of mission-critical paperwork online, knowledge workers are able to review, annotate and collaborate online, reducing the frequency of business travel. Think of the savings from an environmental perspective — lower transportation emissions, less fuel usage, and less wear and tear on the physical infrastructure that supports these activities.

Tetra, a global manufacturer of aquarium products, used BPM to move its engineering change-request process online. The solution enabled the organization to not only eliminate paper and costly mail between offices, but also allowed engineers, scientists and other knowledge workers in a variety of locations to collaborate on product changes online. Before BPM, one change request could include drawings of 50 parts and generate an exponential amount of paperwork to process the request.

With BPM, all documentation is online, and multiple, geographically dispersed users can simultaneously review the product folders and subfolders.

According to a recent Barclaycard study, a typical business person will travel approximately 7,200 miles per year beyond their daily commute — that's the equivalent of 3.1 tons of CO<sub>2</sub> emissions per person, per year. With more than 200 million trips per year attributed to business travel in the United States, the total environmental savings from reducing travel by a modest 20% through online collaboration and process automation could be staggering.

## More efficient manufacturing

On the manufacturing front, duplication of work and processes can lead to excessive costs and inefficient resource usage. The idea of lean manufacturing as a protocol was originated by Toyota in the early 20th century, but new tech-

nologies are letting manufacturers identify process interdependencies and take a broad view of manufacturing process optimization.

Once the product leaves the manufacturing floor, process automation solutions such as BPM enable companies to increase control over both internal and external processes such as purchase order/invoicing, logistics, and transportation and trading partner integration. Shortening transportation routes by limiting movement and resources use and converting manual, paper-based procurement and payment processes into automated electronic transactions between manufacturers, partners, retailers and customers leads to significantly reduced environmental impact.

In addition, a proper understanding of your supply-chain network, related assets and interdependent processes that is well documented in an EA tool can help identify and eliminate duplicate resources, excess overhead or inefficient distribution channels. Leveraging a tool will enable increased visibility and analysis — and correcting these issues could eliminate buildings, machinery and inefficient transportation routes, all of which contribute to a more environmentally and economically sustainable business model.

Supply-chain benchmarking and sustainability efforts, combined with process automation, can yield sustainable carbon-footprint reductions through more optimized paper and fuel consumption, reduced physical overhead and less raw material and resource usage.

## Adding it up

Industry needs to embrace environmentally sustainable business practices because it is the right thing to do and because governments will likely force the issue through new regulations and requirements. You can wait for the mandates or proactively improve your operations in ways that will positively impact the environment and deliver measurable cost savings and a long-term platform for sustainability.

Implementing a common technology platform for business process management and enterprise modeling will enable you to go green in more ways than one.

*Mooney is vice president of corporate communications at Metastorm ([www.metastorm.com](http://www.metastorm.com)).*

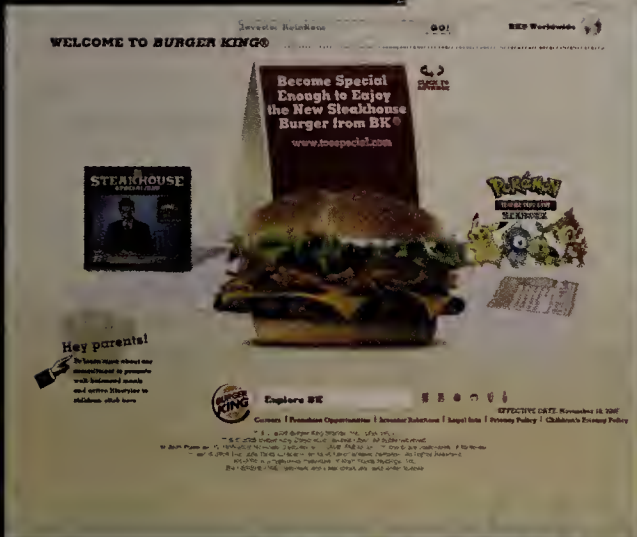
This vendor-written tech primer has been edited by Network World to eliminate product promotion, but readers should note it will likely favor the submitter's approach.





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## GEARHEAD

Mark Gibbs

# Wolverine Internet radio is almost good

Internet radio is big. Pretty much every “terrestrial” radio station now streams live and many, such as KCRW in Santa Monica (one of my all-time favorite radio stations), offer dedicated news and specialized music streams. And then there’s the huge number of Internet-only stations, such as SomaFM with its 14 commercial-free, advertiser-supported, incredibly groovy channels.

So, what are you going to use to listen to this overflowing smorgasbord of music? Most of these stations use such standards as MPEG or Real Audio streaming, or provide flash-based players, so there’s no problem finding PC- and Mac-based solutions.

But what if you want to listen to Internet radio without a PC? I’ve covered a few options in previous columns, such as Logitech Slim Devices’ Squeezebox Classic, which I reviewed last year and which still is one of the very best products in the market (although at \$300, it’s not cheap). And this week I have a new entrant into the dedicated Internet radio player market: the World Radio from Wolverine Data (\$180).

I reviewed one of Wolverine’s products a couple of years ago, and the World Radio is consistent with the company’s other products — that is, almost good but disappointing.

The World Radio sports a retro, boxy, kinda cheap look (that my wife just doesn’t like at all), and has a power button; a home button; a back button; four buttons for presets; and two knobs, one for volume and the other for scrolling, which you also press to select the currently highlighted entry on the puny and low-resolution monochrome display.

The World Radio immediately found my Wi-Fi access point (the device can also connect via wired Ethernet), and after I entered my access code (the user interface would make this a clumsy process but the included remote solves this problem), it was online. I browsed the stations by coun-

tries and eventually found KCRW and voilà! I was listening! Cool.

That said, while news and talk channels sound fairly good, the sound quality for music channels leaves a lot to be desired. The bass is almost nonexistent, the middle is flat and the top is rather tinny. Not truly awful, but not at all good.

The World Radio also can play music via Windows Media Player 11 running on your PC (tough luck to you OS X users).

So, does the World Radio have issues? You betcha. The user interface is poor. The low resolution of the display and its poor organization make it clumsy, but the slowness and lack of responsiveness are what really irritated me. The World Radio also gets confused and when confused, it just sits there and does nothing. The only answer is to unplug it, plug it back in, then switch it on again. In fact, that is the same problem I’ve had with other products (such as the Sony Reader) that try to replace traditional devices: If you want to replace a radio or a book you can’t deliver something more complicated unless you add a huge amount of value — and it is there that the World Radio and the Sony Reader simply don’t cut it.

There are more issues with the World Radio, such as the weird and useless Web interface and the clumsy bundled vTuner service (this provides Internet-based selection of channels for your unit), but here’s the bottom line: The World Radio isn’t completely awful, it is just lame and buggy. I was impressed initially, but with experience the World Radio is simply disappointing. I’ll give it a 2 out of 5.

Oh, and on the Wolverine Web site, don’t believe the simulations of the World Radio user interface: The real one isn’t in color, it doesn’t have nice fonts and it doesn’t work that fast. Tut, tut, tut.

*Will Gibbs get over his disappointment in Ventura, Calif? He will if you tell him what devices have disappointed you at [gearhead@gibbs.com](mailto:gearhead@gibbs.com).*



Keith Shaw

## COOLTOOLS

# Lessons learned in the holiday gift guide

On page 34 is our annual “Cool Yule Tools” holiday gift guide, in which we present our favorite tech gift ideas for the holiday season. For nine years, I’ve coordinated the production of the guide, which involves many hours of testing products to make sure they have the Network World Cool Yule Elves seal of approval. Here are five things I learned this year:

**Analog-to-digital conversion is hot.** This seems to be the year of taking old media formats (vinyl albums, cassette tapes, old VCR tapes) and converting them to digital. If you’ve got bunches of “older” media sitting in boxes, there are several gadgets that let you digitize them into electronic bits.

**The iPhone still rocks.** I’m a big fan of the Apple iPhone 3G, but an even bigger fan of the App Store and the multitudes of applications being developed that turn this mobile device into an even more valuable tool. In addition, the number of iPhone and iPod-related accessories continue to astound me — such great devices as Griffin Technology’s AirCurve and Belkin’s RockStar.

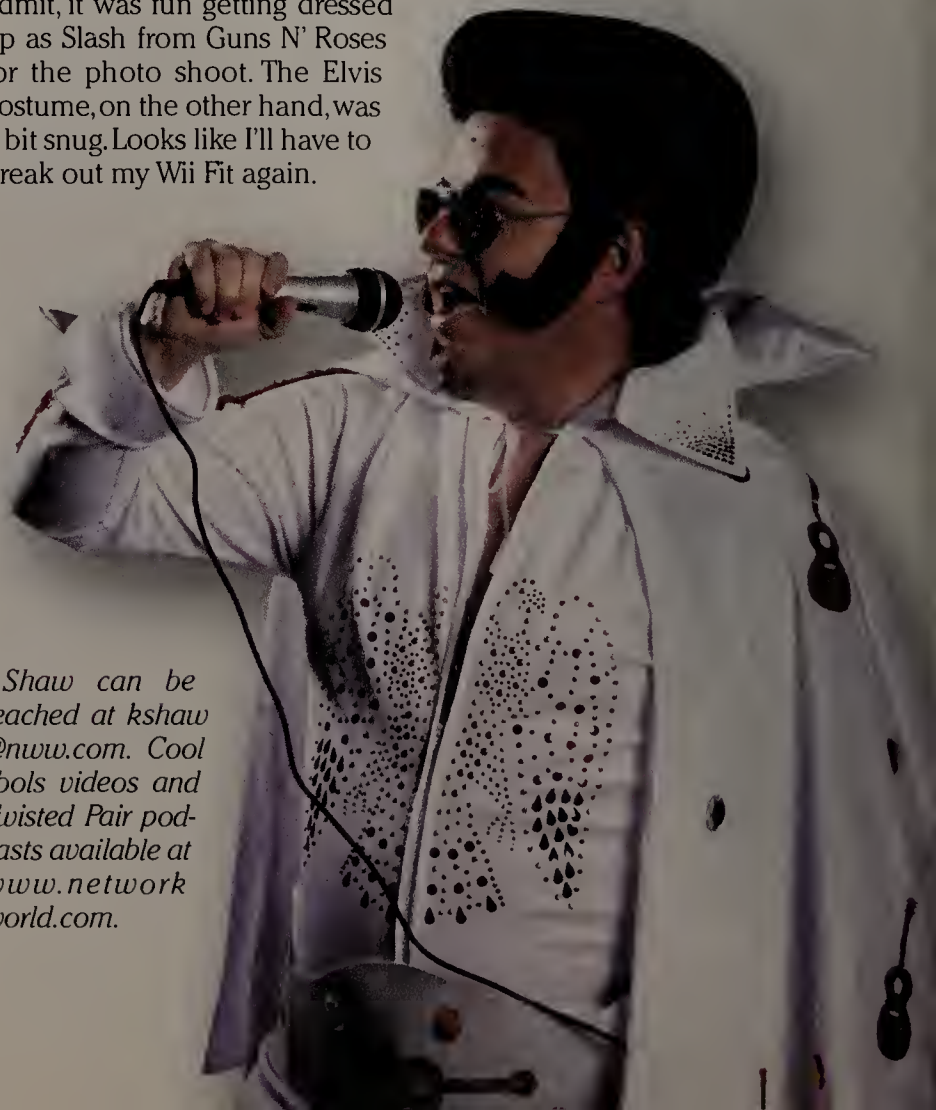
**Simple really is better.** I was much more impressed and encouraged by products that did one or two things really well, rather than trying to tackle a bunch of complicated features and bundle them into one big package (other than Epson’s fine, multifunction Artisan 800 printer). I’m always happy to see manufacturers that think about ease of use in their products, because it means that my nontechie friends won’t be bothering me for tech support when I give them a tech gift.

**I always bite off more than I can chew.** The goal of our gift guide is to span the universe of technology products to try to present the best of the best. I always end up with more products than I can test and write about (until I perfect either the cloning device or time machine). Fortunately, we have a few more weeks before the holidays, so stay tuned in

this space and online for more reviews and gift ideas as I catch up from the onslaught of product submissions.

**Don’t let your art department talk you into posing as rock stars.** OK, I’ll admit, it was fun getting dressed up as Slash from Guns N’ Roses for the photo shoot. The Elvis costume, on the other hand, was a bit snug. Looks like I’ll have to break out my Wii Fit again.

*Shaw can be reached at [kshaw@nww.com](mailto:kshaw@nww.com). Cool Tools videos and Twisted Pair podcasts available at [www.networkworld.com](http://www.networkworld.com).*





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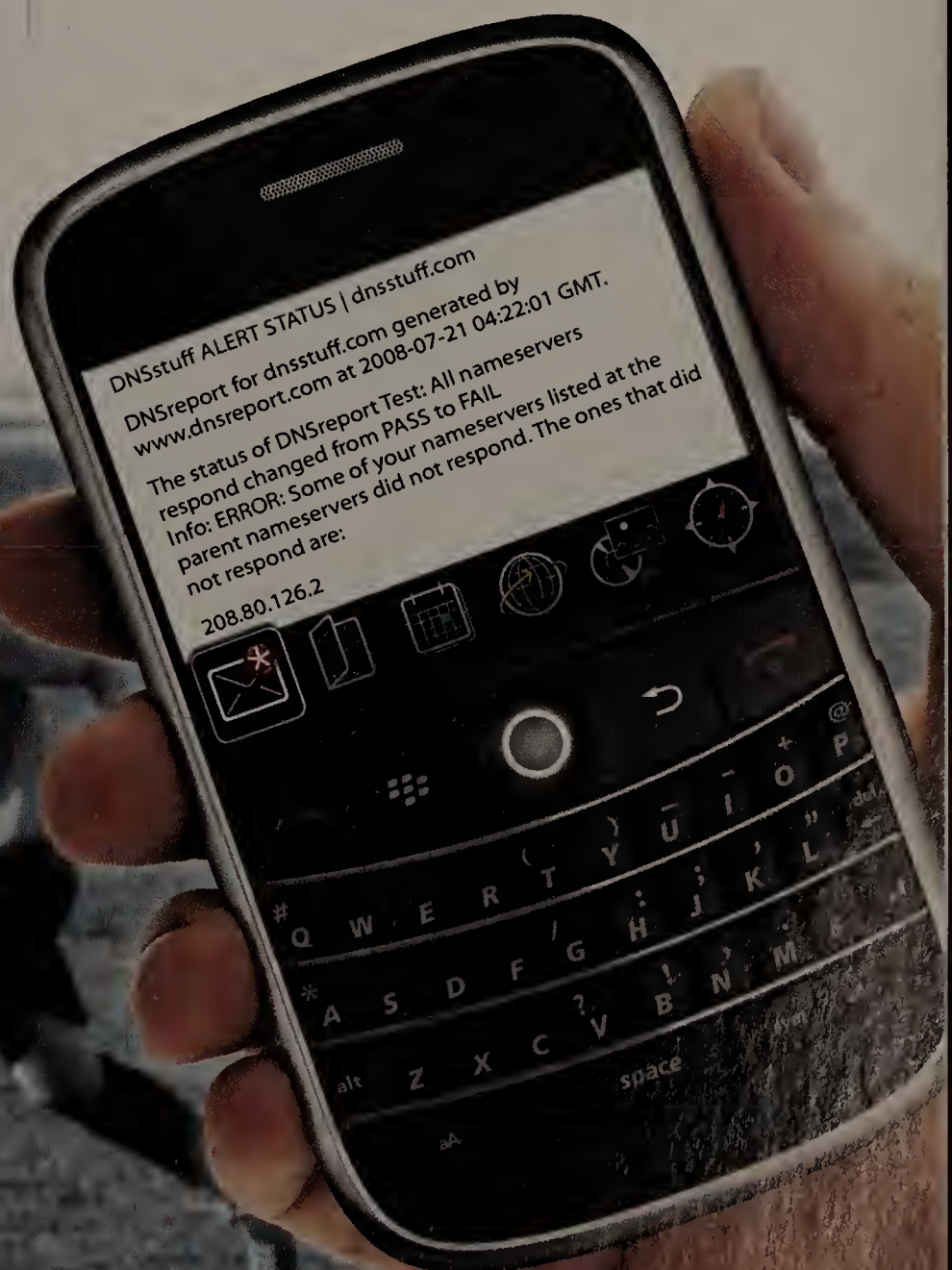
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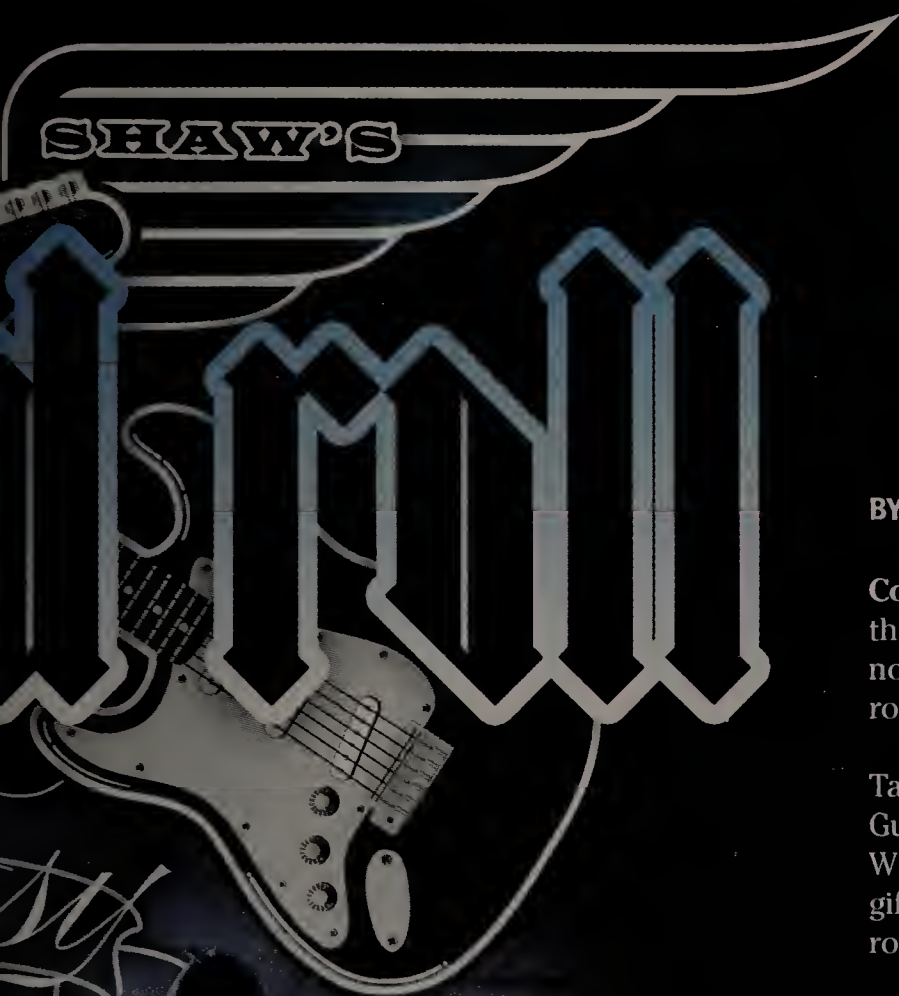
KEITH

rock on

*Santa*

mStation





BY KEITH SHAW AND THE COOL YULE ELVES (AND ONE COOL YULE ELVIS)

**Cool gadgets are back.** A year after the iPhone overshadowed everything else, consumer electronics manufacturers have kicked it up a notch — this year's offerings in the high-tech holiday gift space are rockin.'

Taking our cue from two of the hottest video games (Rock Band 2 and Guitar Hero World Tour), we chose holiday gifts that rocked the house. Whether a hot new notebook or a wicked cool iPod speaker system, the gifts on the following pages all have one thing in common — they rocked during our tryouts.

So sit back, relax and enjoy the music as you peruse this year's guide. For an encore, head online ([www.nwdocfinder.com/7433](http://www.nwdocfinder.com/7433)) to see our holiday gift suggestions that all will make you feel like a rock star.

**mStation 2.1 Stereo Tower** (opposite page) \$299.95

This may not be the world's largest iPod speaker system, but it certainly comes close. The speaker system has 100 watts of stereo sound with a 5.25-inch dedicated subwoofer, and six docking cradles for various iPod audio players. A 10-key remote control and the ability to synchronize via iTunes (a USB cable connects to your computer) make this a great speaker system for an office, living room or home entertainment area.

**Axiom M3-V2 Bookshelf Speakers** (above) \$330 per pair

These are one of the best values in bookshelf speakers today. With a crisp and balanced sound, a 6.5-inch aluminum woofer and 1-inch titanium tweeter, these would be perfect for people in the market for music or home theater speakers.



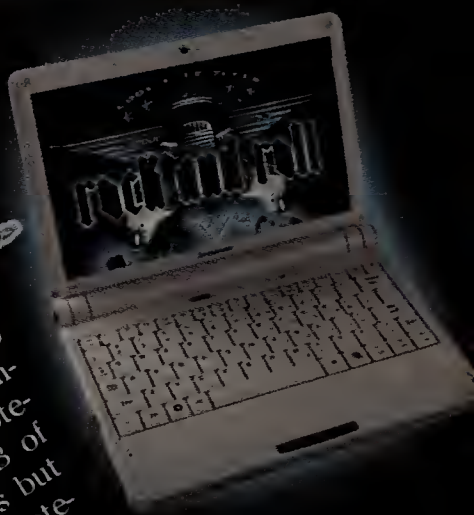


**HP TouchSmart PC** Starts at \$1,299  
Taking a page from the iPhone, HP has enabled touchscreen technology that provides a nice overlay to Windows Vista, and created an all-in-one desktop PC that may have families moving their computer from the office or a den into the living room or kitchen. With its focus on hands-on photo viewing, music, videos and day equivalent of the refrigerator door. Two sizes are available, a 22-inch and a 25.5-inch widescreen. Two models also include a TV tuner so you can turn your PC into a home media center as well.

**Lenovo Ideapad S1 Netbook** Starts at \$399  
It's not often that you hear the word "cute" to describe a notebook, but we got several such comments when we showed off the S1. The 10.2-inch notebook includes an Intel 1.6GHz processor and 1GB of RAM, and runs Windows XP — decent tech specs but not top-of-the-line. The Netbook is no power gaming notebook, but for simple tasks (Web surfing, word processing, e-mail and so forth), this might fit the bill. An integrated Webcam and 160GB of hard-drive space are other nice Netbook features.

**Epson P-6000 Multimedia Photo Viewer** Starts at \$599  
Whether you're a point-and-shoot soccer parent or a semi-professional (or full professional) photographer, if you take lots of photos, the Epson Multimedia Photo Viewer is a great way to back up and store images and view them with a screen that's larger than the display on the camera. With its Premium LCD technology, the viewer can show more than 16.7 million colors, giving you the best color accuracy around. The 80GB hard drive lets you store thousands of photos instantly by transferring them from your media card to the device. The P-6000's download speed is 35% faster than previous models, and its battery lasts longer.

**Memorex SingStand** \$49.99  
Channel your inner Elvis (or any other artist stored on your iPod music player) with the SingStand, which lowers the vocal audio track to your favorite songs to let you sing the song karaoke style. Speakers at the microphone stand's base project your beautiful singing to the rest of the world. The only downside? No lyrics show up anywhere, so you'll have to know the song that you're singing (no lip-synching allowed).





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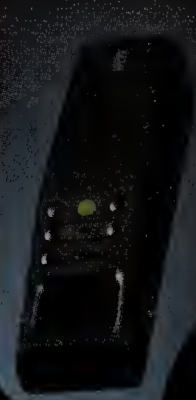




**Alienware Area-51 m15x notebook** Starts at \$2,299  
This 15.4-inch notebook includes the very powerful Nvidia GeForce 9800M GT graphics card (unheard of for notebooks of this size), and Intel Core 2 Extreme processors for a great gaming experience and for such high-powered multimedia applications as audio- and video-editing. A very hip feature is the AlienFX lighting application, which lets you customize hardware colors to fit your mood. With the latest in advanced wireless, a Blu-Ray DVD drive, built-in Webcam and expanded memory options, the Area-51 is the perfect gift for the rock-star power gamer on your list.



**Ipevo TR-10 Portable Conferencing Phone for Skype** \$79.90  
This portable speakerphone for iChat (on the Mac) or Skype provides much better audio for VoIP than your notebook's built-in speaker and microphone. The TR-10 is simple to install via its USB connection, and works great with Skype (it also can record Skype calls and other audio). The sound quality was excellent in both directions.



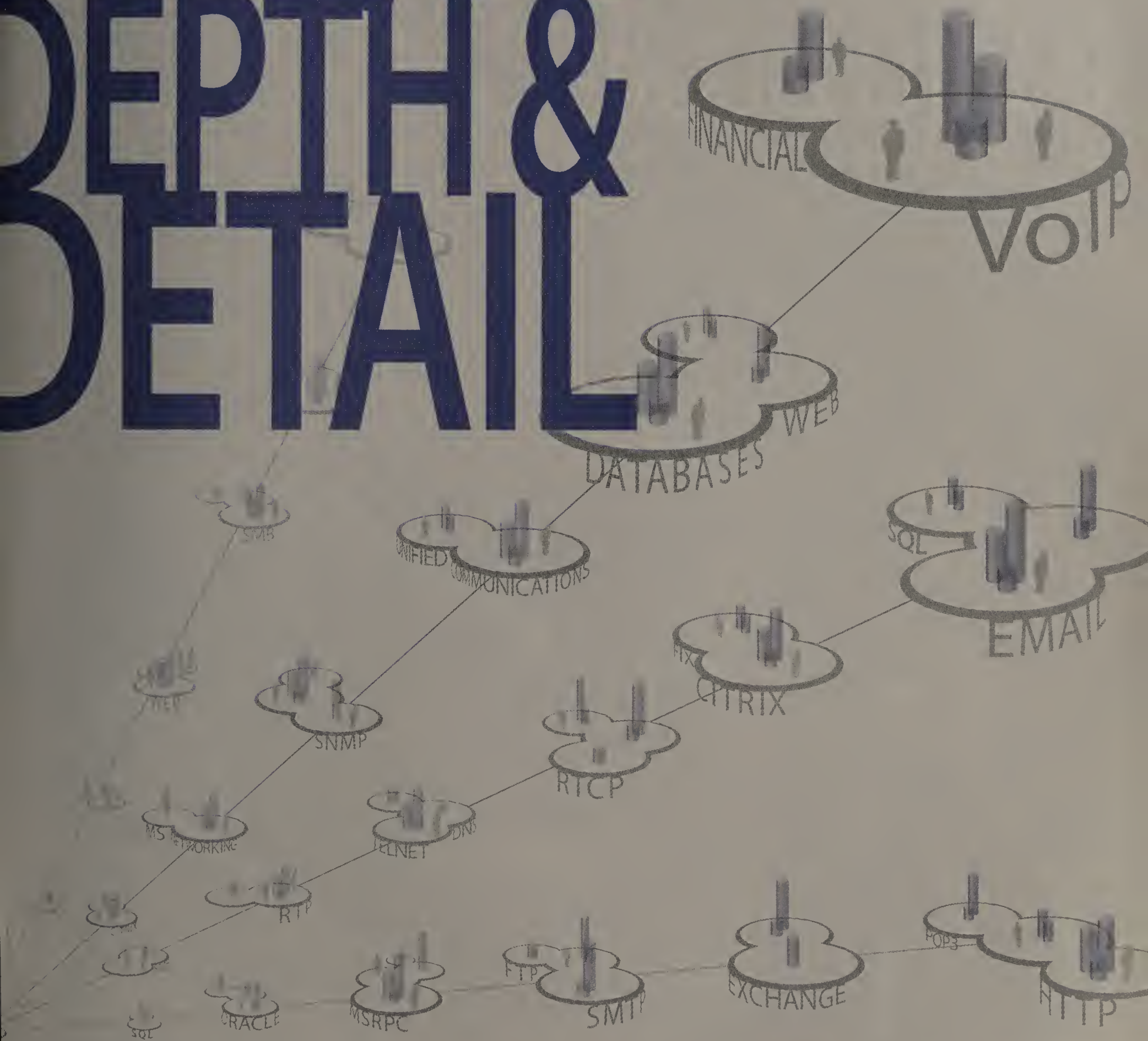
**ION Drum Rocker** \$300  
Get more from your Rock Band or Rock Band 2 drumming with the Drum Rocker, which offers a more realistic drumming experience than the drum kit that ships with the games. The aluminum drum rack allows for flexible positioning for the snare, tom and cymbal pads. And if you get really good at the drumming thing, you can swap out the game controller module and get a professional drum system (\$360) to let you drum for real. **TAC Illuminated Drumsticks** \$20. Really show off your mad drumming skillz with these fancy drumsticks, which light up (red or blue available) every time you hit the pads. The perfect accessory for the drummer in all of us.



**Memorex miniMove Portable Boombox** \$49  
The MiniMove is one of the easiest ways to take your iPod with you wherever you go, and provides great-sounding music from the speakers. The miniMove's simple buttons let you listen to music on your iPod, and the handle makes it easy to transport. Our favorite feature is a non-iPod feature: Hold down the fast-forward button when you're listening to the radio, and it automatically finds the clearest station in your area. The device is powered by a charger, but it also runs on batteries, making it even more mobile.



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# rock and roll

*Fantasy*

**Sprint Ovation U727 by Novatel Wireless USB Modem** \$79.99 (after rebates)  
This EV-DO Rev. A adapter is meant to be used on Sprint Nextel's domestic network (not WiMAX, however), and has three clever features. First is a microSD slot, which can take a card as large as 4GB for connecting to the computer. Second, its GPS links to such services as MapQuest and Google Maps to let you find local services. Third, it can get up and running without needing a separate CD-ROM installation program.

**Go Peak's Starpex Obsidian guitar controller** \$180  
Future rock star guitarists know that cheap plastic controllers won't get you very far. If you're playing a lot of Guitar Hero and Rock Band, this high-quality wireless controller (compatible with the PS2 / PS3 system) offers 10 buttons for different fingering positions, an optional cable for wired connectivity, and an improved whammy bar. The heavier wood guitar feels more natural than the lighter guitar controllers.

**HP HDX 18t Premium series notebook** Starts at \$1,399  
You'll want to show off this mega-notebook by moving it out of your home's office or den and giving it a spot in the living room (maybe even replacing your TV). The HDX 18t has an 18.4-inch flush-glass display with optional 1080p resolution and 16:9 viewing ratio for watching movies or TV (optional tuner card), as well as Blu-Ray DVDs. Performance is not an issue, with Nvidia graphics cards, and Intel Core 2 Duo Edition processors available. The notebook has 2.1-capable speakers (7.1 audio available through the High-Definition Multimedia Interface), Dolby-simulated surround sound and a triple bass reflex subwoofer. DVR software is included, and you can edit HD video. A fingerprint reader helps protect the videos you create from prying eyes.

**Epson Artisan 800** \$299.99  
If you're going to move your PC into the living room, you might as well have a printer that will feel right at home there. The all-in-one Artisan 800 provides print, copy, scan, fax and photo-design. Wi-Fi networking (Ethernet and USB ports also are available) lets you move the printer to a room without being tethered. The high-definition photo-printing uses Epson's Claria technology, which makes great-looking photos. With a 7.8-inch touch panel and 3.5-inch LCD, you can review photos being printed from a memory card without needing a PC connection. The icing on the cake is the Artisan's ability to create personal note paper (on lined or graph paper), as well as coloring-book pages based on photos you scan.



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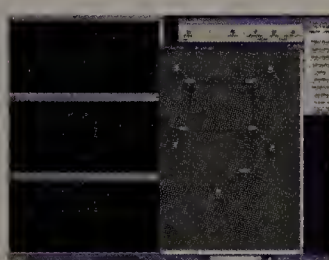
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(Left to right)

**Beamz \$399**

One of this year's most unusual devices is beamz, a W-shaped piece of hardware that lets you create music by waving your hands over some laser beams. With software residing on a connected PC, the beamz responds to a performer's motions to create a musical performance. It's a lot like air guitar, but with additional instruments — and it doesn't make you look foolish. The system comes with 30 original pieces in musical genres including rock, jazz, reggae, hip hop and classical. More songs can be purchased online.

**Logitech Squeezebox Boom \$300**

This very nice all-in-one system (networked media player, 30-watt digital amplifier and speakers) enables users to access tons of music over a home network. Connected, the Squeezebox Boom links to music stored on a PC hard drive, or goes out to the Internet to access Internet radio and online music services.

**Belkin RockStar \$19.95**

Our rock-star holiday guide has to include a device called RockStar. The star-shaped device has five audio-input jacks for headphones, as well as an input jack to connect an iPod, iPhone or other audio player. When headphones (or speakers) are connected to the other prongs on the RockStar, multiple users can listen to the single audio device.

**Apple iPhone 3G with Otterbox Defender case \$300 for iPhone, \$49.95 for Otterbox case**

We would be remiss if we didn't mention the iPhone 3G in this guide — we've written a lot about this device over the last year, so adding more plaudits seems like overkill. But we also want to mention our favorite case for the iPhone 3G, the very protective Otterbox Defender. Not only does the hard plastic case protect the iPhone from drops and scratches, but the silicone skin provides additional protection from bumps and shocks, and a thin, clear membrane covers the touchscreen to help prevent scratches.

**WowWee RS Tri-bot \$99**

The latest model in WowWee's Robosapien line of robotic toys, the Tri-bot has a Pee-wee Herman-like personality and radio control car-like speed — it can cover more ground and crack more wise than any previous WowWee model. The robot includes an omni-directional three-wheeled base, blinking LED eyes and a guard mode that, when triggered, causes it to whoop and flash erratically.

Shaw can be reached at [kshaw@nww.com](mailto:kshaw@nww.com).

Photography by Steven Vote, hair and makeup by Tammy O'Connor

Special thanks to our Cool Ynle Elves: Brian Wood, Kevin Konikowski, Stephanie Crivello, Cheryl Crivello, Neal Weinberg, Tim Greene, Jason Meserve, Prashanth Menon, Daniel Hunt, Craig Mathias.



**Ynle on the Rock and Roll**

Our Rock and Roll Fantasy continues at [www.nwdocfinder.com/7433](http://www.nwdocfinder.com/7433), where you can peruse more than 100 other holiday gift ideas for the rock-star techie on your list. Be sure to watch videos of some of our favorite gifts, as well as a special Rock Band 2 performance by Keith Shaw.



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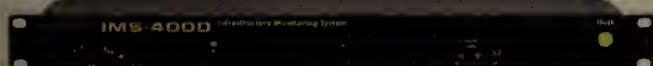
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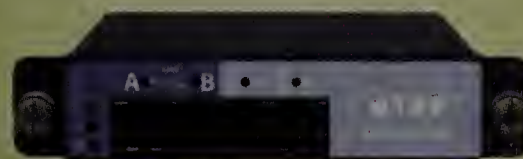
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# NEWS ANALYSIS

## Contracts

continued from page 1

telecom, outsourcing and maintenance companies, Catalini says. Salespeople are under pressure to record sales in 2008, so there's also an opportunity to get larger-than-usual discounts if an enterprise is willing to buy a product earlier than it had planned, he says.

With a signed contract, a customer typically has to give up something to get a discount. This often means extending the contract in exchange for lowering the annual fees.

Simonds International in Fitchburg, Mass., has achieved cost savings by renegotiating contracts with disaster-recovery, ERP, phone and WAN vendors, says CIO Susan Kifer.

Key in her negotiations is honesty, says Kifer, who also is a SIM member. The cutting-tool manufacturer is struggling because of the declining housing market, a fact she is quick to point out to vendors. "Everyone understands what's going on in the housing market. We need to lower our costs in order to remain viable. For us, that's an honest statement," she says.

Simonds had a three-year contract for a robust high availability disaster-recovery service that cost \$60,000 a year. About a year ago, "the vendor worked with me to provide a backup service that was not [high availability] but was adequate and lowered our cost to \$30,000 for the remaining two years of the contract," Kifer says. The vendor was flexible in part because it also sells servers to Simonds and wants to maintain a strong relationship, she says.

Kifer also targeted ERP annual licensing, negotiating about a 10% discount in exchange for a three-year contract renewal. That was about two and a half years ago and she is renegotiating again, she says.

With Simonds' phone and WAN vendor, Kifer renegotiated with about six months left on the contract. She went through a full RFP, competitive-bid process, which helped convince the existing vendor to lower pricing. "Not everybody's willing to [renegotiate]," she says. "We have found if we have a longstanding relationship [with a vendor] they have been willing to help us through."

Despite Kifer's success, renegotiating contracts is extremely difficult, Gartner analyst Jane Disbrow says. "I cover Oracle and SAP. Both of those companies are very, very difficult to deal with when it comes to taking partial licenses off the board," she says. "They fight very hard against customers coming back and trying to reduce maintenance and support. It used to be you could just drop support."

A decade ago, dropping support for a particular product was as simple as writing a letter, Disbrow says. Today vendors are more likely to take an all-or-nothing stance. If you have bought five products from a vendor and want to drop support on one, the vendor will insist that you

either maintain support on all five or stop getting support entirely, she says. "A lot of these companies have ended up with shelfware, products they've never used and never put into production," she says. "The vendors are just not cooperating."

IBM is wary of renegotiating contracts with customers, says its software chief Steve Mills. "In general, no," he says when asked if IBM is willing to renegotiate contracts. "But you have to get down to the specifics of what the client situation is."



**Thomas Catalini says vendors need to be flexible in renegotiations.**

If customers say a product is not working out, IBM tries to help them make better use of the technology, or use it in a different way to gain more value from it, Mills says. "Our response is not 'let's lower your bill.' It's 'let us come up with more creative ways to use the equipment we have,'" he says. "We're not inflexible in that context but we're also not giving customers their money back."

Mills says he hasn't noticed any increase in customers wanting to renegotiate contracts.

Today's economic conditions could make it harder to renegotiate signed deals, but customers look-

ing to spend money should be able to get a great price, Gartner's Disbrow says. "Certainly it is a buyer's market. If you're negotiating a new deal, credible competition is your primary leverage," she says. "Right now, Oracle and SAP can't stand each other. They'll discount tremendously to keep the other company from winning that deal."

Some users negotiate contracts on their own, but enterprises also can hire expert negotiators to help them through the process. Illinois attorney Sam Conforti negotiates contracts and writes a blog on software licensing. The ability to renegotiate software maintenance and support fees has been hindered by vendors not offering the option to "park users," he says.

ERP vendors, for example, used to let customers reduce their user counts for specified periods of time, usually not more than 12 to 24

months, Conforti says. This occasionally was done in the early part of this decade, but is not an option with ERP vendors today, he says.

"We could ponder if such a mechanism will be allowed again by the ERP vendors," Conforti says. "This may depend on how bad the economic conditions are and how long they persist. The original intent was to temporarily help out a customer experiencing economic hardship, not to allow a revolving door for ERP customers to turn users on and off during normal seasonal or business-cycle downturns."

In a worsening economy, some customers are taking longer to pay money they owe from contracts negotiated in better financial times.

CRM vendor RightNow Technologies recently reported losing revenue because of "lengthening of payment terms and slower cash collections," according to Goldman Sachs.

Contracts typically have cash penalties for non-payment, AMR's Brown notes. Getting relief from expensive contracts is tough for small customers. If you lack clout, have signed an iron-clad contract and don't have a great relationship with the vendor, "you could end up yelling at each other and that's the end," he says.

The key for customers is to call the vendor, state your case in business terms and act professional, Brown says. There has to be some give-and-take, with each side giving up something. "This is about business. This isn't personal. Where people get into trouble is they make it personal," he says.

In today's economy, many vendors are ready to be flexible, Catalini says. "The good ones are expecting my call," he says. "They're prepared for the discussion, they are willing to be flexible and act as my partner." On the other hand, "I've had some that are not really offering a lot of flexibility. We don't necessarily have a lot of leverage in those cases," he says.

If dropping support for a product is an option, sometimes it's worth the risk, Kifer says. "I self-provide a spare router for example and don't pay maintenance on my other remote-site routers. We can get them back up and running next day, and we've decided that is good enough," she says. ■

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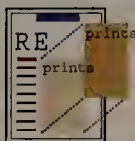
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## BACKSPIN

Mark Gibbs

# Will white spaces mean more net choices?

**M**y problem with broadband? It's the lack of real choice. Currently what we have is the kind of "choice" offered by fast food companies that try to persuade you that you can have it your way when the choice is little more than with or without onions.

What I'm talking about is real choice, the kind of choice that shows that the world of commerce is a level playing field, not just a case of

he who has the most money gets to squeeze the market dry.

I have complained many times about the lack of choice in Internet access, and people have argued that if you can switch service providers there is choice. I contend that when switching is painful — when there are penalties or delays or other impediments — then choice is illusory.

To foster an Internet connectivity marketplace with real choice we need a broader playing field with low entry barriers so there are more competitors.

The FCC has just taken what could be a step forward by approving the use of "white spaces" as an alternative for Internet access.

White spaces is the term for the radio spectrum that will be vacated next February when the FCC mandates that analog television broadcasters transmitting from 54MHz to 806MHz go digital and restrict their transmissions to the 54MHz-to-698MHz range. That frees up a band 208MHz wide, which is a lot of radio capacity just to have lying around.

Commerce, just like nature, abhors a vacuum, so into this opportunity stepped a consortium of power players, namely Microsoft, Google, Dell, HP, Intel, Philips, EarthLink and Samsung Electro-Mechanics calling themselves the White Spaces Coalition.

The coalition's proposal is to use the white spaces for wireless

Internet connectivity that will start at 10Mbps and, in short-range applications, may achieve 50M to 100Mbps.

Of course vested interests — such as television companies, the National Association of Broadcasters and companies that sell wireless audio systems — argued that allowing unlicensed use of these frequencies would compromise the integrity of their transmissions. After an 18-month study the FCC concluded these naysayers were full of it, so on, Nov. 4, U.S. election day, the FCC voted unanimously to allow unlicensed use of approved devices operating in the white spaces.

Backing up the blandishments of the coalition has been a diverse group that includes the Free Press, the National Organization for Women, Feminist Majority, Leadership Conference on Civil Rights, Consumers Union, Consumer Federation of America, Public Knowledge, Media Access Project, MoveOn.org, U.S. Public Interest Research Group, Common Cause and the Center for Media Justice.

I find this fascinating. Just consider how often powerful lobbies manage to pervert policies and programs that potentially would be valuable to society into windfalls for a small number of commercial or political concerns. And yet, this landmark decision could end up giving consumers and small businesses in areas without broadband access a mainstream route to the Internet and weaken the vice-like grip that the major ISPs have on the existing market.

The question is, will white-spaces Internet access become what all the noncoalition supporters hope for, or will it wind up being a gravy train for the coalition members and ultimately provide a wider range of nonchoices?

*Gibbs has his doubts in Ventura, Calif. Share your uncertainties with [backspin@gibbs.com](mailto:backspin@gibbs.com).*



Paul McNamara

## NETBUZZ

News, Insights, oddities

# 'Net teaches print another lesson

**H**ow thoroughly has the Internet come to torment the dying industry that is print newspaper publishing?

So thoroughly that even a rare moment in the sun for print last week was overshadowed, at least in part, by the 800-pound online gorilla.

Perhaps you saw the reports: Newspapers nationwide couldn't spin their ancient presses fast enough to crank out extra copies and special editions trumpeting the news that Barack

Obama had been elected president. Television news aired images of people literally lining up around the *Washington Post* building to buy a piece of history printed on dead trees.

Impressive, sure — but how 20th century.

Meanwhile, mere hours later, sellers on eBay were asking \$400 for a single copy of that day's *New York Times* (by the next morning, market saturation had knocked that price down to about \$100). Lesser but still substantial sums were being offered for keepsake editions of lesser but still substantial metro dailies.

So in essence, you have the ink-stained wretches doing all the production work and collecting all the grubby little quarters from those lines of loyal readers/speculators — then watching the real money change hands online.

Still, considering all the abuse heaped upon newspapers these days, it was nice to see them bask in a bit of reflected glory from Obama's historic accomplishment. They, of course, will be happy about the additional revenue, however modest it may look in comparison with the go-go aftermarket on eBay.

But there were indications that the print barons still don't know what's hitting them: "This kind of demand for our newspapers is unlike anything we've experienced in recent history," said one newspaper

executive. "This is a clear demonstration that people continue turning to their local newspaper to help them understand and interpret the news of the day, and that is especially true when big events happen."

No, this is a clear demonstration that readers cannot stash a Web site in a keepsake drawer.

## And it only gets worse

This will seem blindingly obvious to my fellow political junkies but may surprise those who lead more well-rounded (dare I say normal?) lives: The Internet has surpassed newspapers, and trails only television as the primary source of political news for most Americans, according to a recent report from Pew Research.

In addition, the percentage of Americans who say they receive most of their political news from the Internet has more than tripled — from 10% to 33% — in only the past four years. Meanwhile, those saying the same of television and newspapers has remained largely unchanged.

From Pew: "Not surprisingly, the Internet is a considerably more popular source for campaign news among younger Americans than among older ones. Nearly three times as many people ages 18 to 29 mention the Internet as mention newspapers as a main source of election news (49% vs. 17%). Nearly the opposite is true among those over age 50: Some 22% rely on the Internet for election news, while 39% look to newspapers. Compared with 2004, use of the Internet for election news has increased across all age groups. Among the youngest cohort (ages 18 to 29), TV has lost significant ground to the Internet."

In other words, television news executives ought not be snickering about the plight of their print publishing brethren.

Think about where these trends will have taken us by the next time we elect a president.

*Feel free to share those thoughts, too. The address is [buzz@nww.com](mailto:buzz@nww.com).*



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